UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 26 2014

REPLY TO THE ATTENTION OF:
AT-18J

Pamela Allen, Chief
Division of Materials & Waste Management
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049

Bob Hodanbosi, Chief
Division of Air Pollution Control
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049

RE: Final report for the GMAP field campaign around landfill sites

Dear Ms. Allen & Mr. Hodanbosi,

As you know, U.S. EPA in conjunction with Ohio EPA used the Geospatial Measurements of Air Pollution (GMAP) to measure hydrogen sulfide (H_2S) and methane (CH_4), and took volatile organic compounds (VOCs) grab samples at two landfills in Ohio. The two landfills were Apex Sanitary Landfill and Sunny Farms Landfill. There were no indications that H2S or VOC values were above health screening levels on public property. There are no CH_4 health screening levels for comparison, but the CH4 plume was detected for several miles from one of the landfills, demonstrating how far landfill gases can impact communities.

The enclosed document was developed by U.S. EPA Region 5's Air Toxics and Assessment Branch, in consultation with our multi-agency team. The final report has been reviewed and edited. I hope you will find this useful. If you have questions, feel free to call me at 312-886-3006.

Sincerely,

Mary P. Tyson

Mary Pat Tyson, Chief
Air Toxics and Assessment Branch

ENCLOSURE

cc: S. Mooney, DW-8J
Rebecca Geyer, DW-8J
Paul Koval, OEPA
Aaron Shear, OEPA
Darla Peelle, OEPA

Summary of Geospatial Measurements of Air Pollution (GMAP) - Hydrogen Sulfide and Methane for Apex and Sunny Farm Landfills

Prepared by EPA Region 5 Air Toxics and Assessment Branch

Summary

US EPA measured hydrogen sulfide (H_2S), methane (CH_4) and volatile organic compounds (VOCs) at two landfills in Ohio on multiple days in September 2013 to gather baseline data. Weather conditions were conducive to differentiating the landfills from other sources and each landfill was sampled at different times of day. On the days sampled there was no exceedance of health screening levels for H_2S or VOCs on public property. CH_4 does not have a health screening level. H_2S, VOCs, and CH_4 were elevated downwind of the landfill compared to background levels, with CH_4 being elevated up to 7 miles downwind of one landfill. Odors were at times intense and might extend well beyond property lines.

Background

Project background and detailed methodology are documented in the Quality Assurance Project Plan (QAPP) titled "Geospatial Measurements of Air Pollution (GMAP)- H_2S and CH_4 around landfills in Jefferson, Seneca, and Perry Counties; Ohio" version 4.1. As stated in the QAPP, the goal of the project is for U.S. EPA to gather real-time air pollutant concentration data to supplement and compare to currently collected data at the Ohio sites of interest. Ohio EPA may use the data gathered from the measurement campaign from September 23 – 29, 2013 to evaluate the concentrations of H_2S and CH_4 in the ambient air at and near these sites. The data may be used to corroborate the facility odor management plans put in place by Ohio EPA through various enforcement actions designed to reduce offsite odors from these sites while addressing citizen concerns.

Methods

The GMAP is composed of multiple components. For reference these are:

- Cavity Ringdown Spectrometer (CRDS): Measure H_2S and CH_4.
- Geospatial Positioning System (GPS): Measure latitude and longitude.
- Meteorological sensors (Met): Measures wind speed and direction, temperature, and humidity.
- Data Acquisition System (DAS): Records measurements from all sensors.

H_2S and CH_4 were measured September 23rd through 29th 2013, using the Region 5 GMAP system.

Operators conducted three types of surveys:

Background surveys are used as a quality assurance check. These were taken in an area not affected by the source.

Mapping surveys are taken to locate elevated areas of H_2S and CH_4 to help identify potential sources.

Stationary surveys confirm the source once a potential source has been identified. The data collected can later be used to quantify emissions from the source. Operators avoid moving the vehicle during stationary surveys, but sometimes make small adjustments to ensure the sampling mast is within the emissions plume.

Surveys are named sequentially by type e.g. Background 1, Mapping 1, Stationary 1, and Mapping 2.

Each day a background survey was taken in the upwind direction. This can be used to correct the H_2S values and for determining what CH_4 values are above baseline.

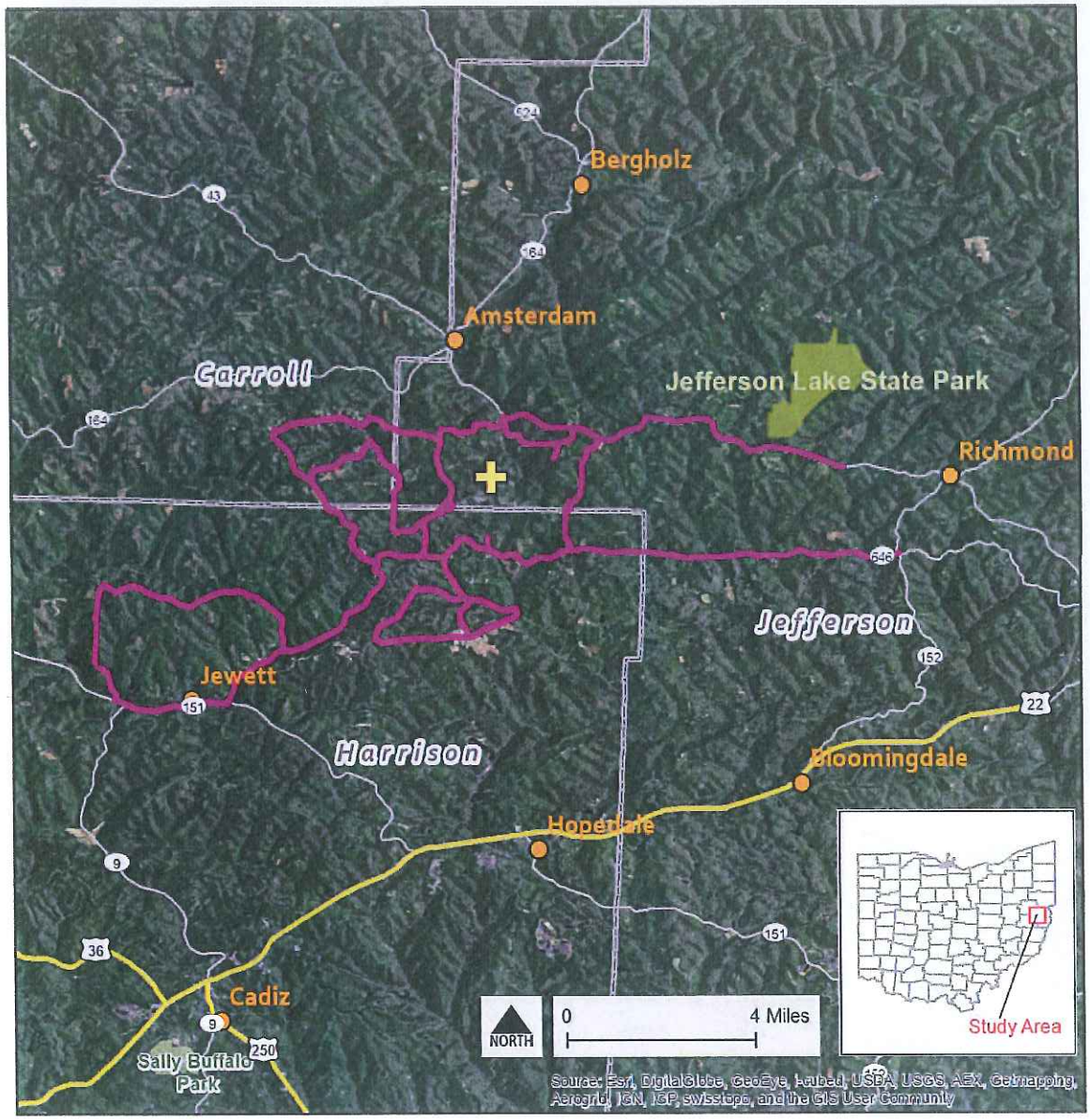
A wind rose displays wind speed and direction at a certain location during a particular time period. The length of each bar indicated the frequency of wind coming from each direction and the color indicates wind intensity.

A circuit was made around each facility, to identify upwind/downwind locations and areas with elevated concentrations of H_2S or CH_4; when elevated levels of H_2S were found a stationary survey was taken to quantify the emissions from the source. The sampling team also would drive away from the facility in the direction of the plume, to determine the width and length of the plume.

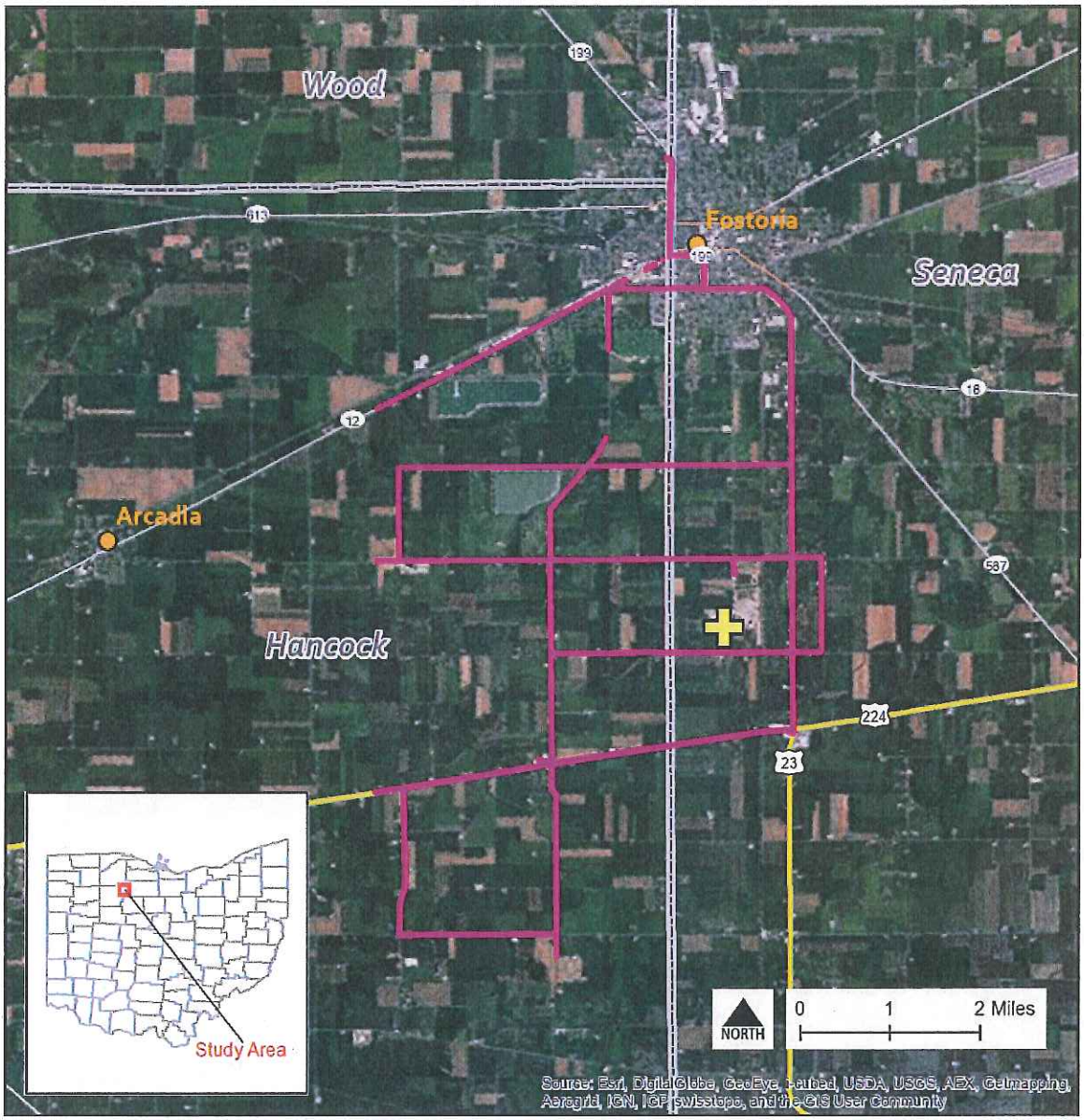
SUMMA® canister samples were also collected as part of this field campaign. Twelve samples were analyzed for VOCs using compendium TO-15. Results are found in Attachment 2.

Results

The following depicts the key findings from the surveys.



Map 1a: Overview of study area near Apex Sanitary Landfill. The purple line shows the path of the monitoring vehicle. The yellow cross is the location of Apex landfill



Map 1b: Overview of study area near Sunny Farms Landfill. The purple line shows the path of the monitoring vehicle. The yellow cross shows the location of Sunny Farms landfill.

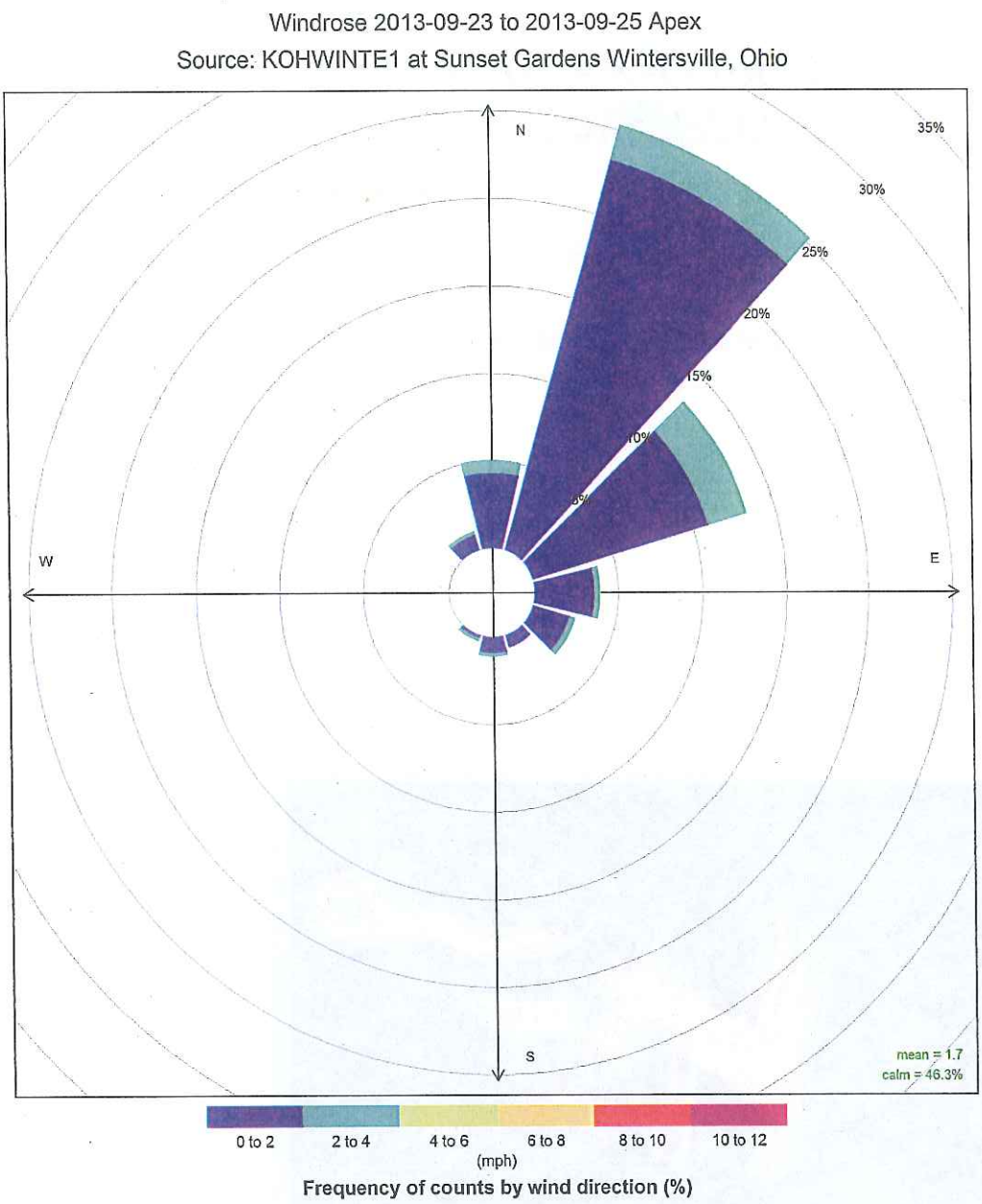


Figure 1

Wind speed and wind direction were consistently from North Northeast for the time the field team sampled around Apex. This wind rose was created using data from a local meteorological station rather than the instrument's meteorological sensors. The instrument's sensors generate usable data only during stationary field sampling when the vehicle is not in motion.

Apex 9-23-2013

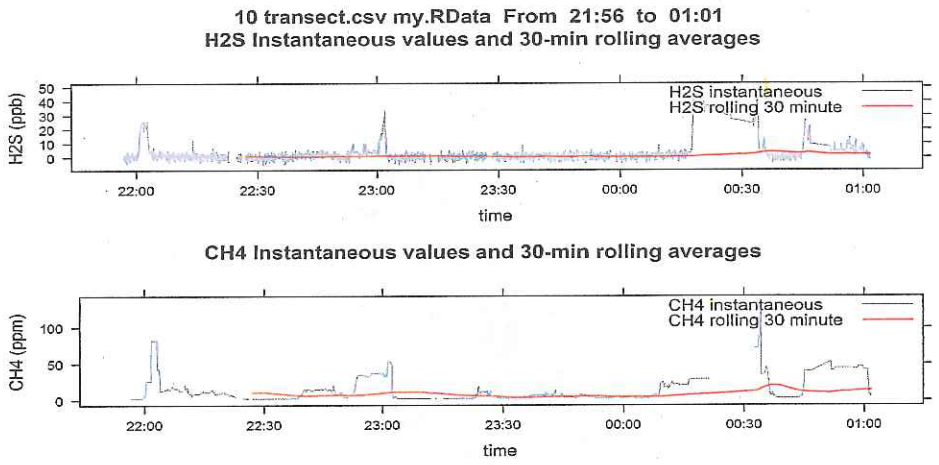
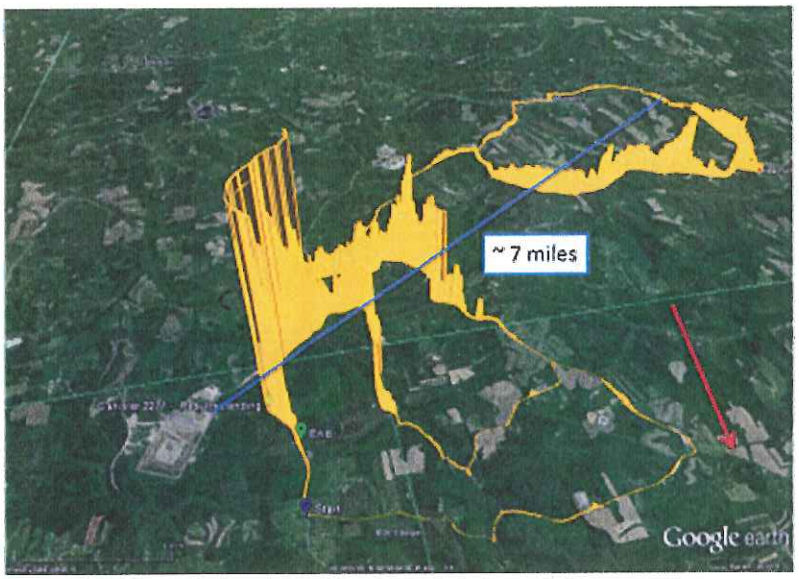


Figure 2



Map 2. Apex CH_4 concentration for 9-23-2013. Red arrow indicates north. The predominant wind direction for 09-23 to 09-25 is from the Southwest as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.

Sampling began at Apex on Monday, September 23 and ended on September 25. Several circuits were made around the facility at various times of the day. H_2S and CH_4 were both measured close to the landfill, with noticeable odors. Staff made a circuit around the site, and conducted several stationary surveys.

Field staff then began a mobile survey to determine the extent of the plume. Concentrations of CH_4 was detected for greater distances away from source than H_2S. The map on the preceding page, oriented with North to the left of the page (red arrow) shows the CH_4 plume from Apex.

Three Summa canister samples were collected on 9/23: canisters 0829, 1152, and 00160. Analysis results are found in Attachment 2.

Table 1

	H_2S (ppb)	CH_4 (ppm)
Minimum value	-4.6*	1.9
Median	1.2	3.66
Mean	1.4	7.7
Maximum value	42.7	133.5**

* Raw values retrieved from the instrument are less than the minimum detection limit. Some negative drift exists in all analyzers. When this flag is reported negative drift was considered normal and not excessive (greater than -6 ppb)

**This value exceeds the range of the monitor (20 ppm) and is reported as-is.

Apex 09-25-2013

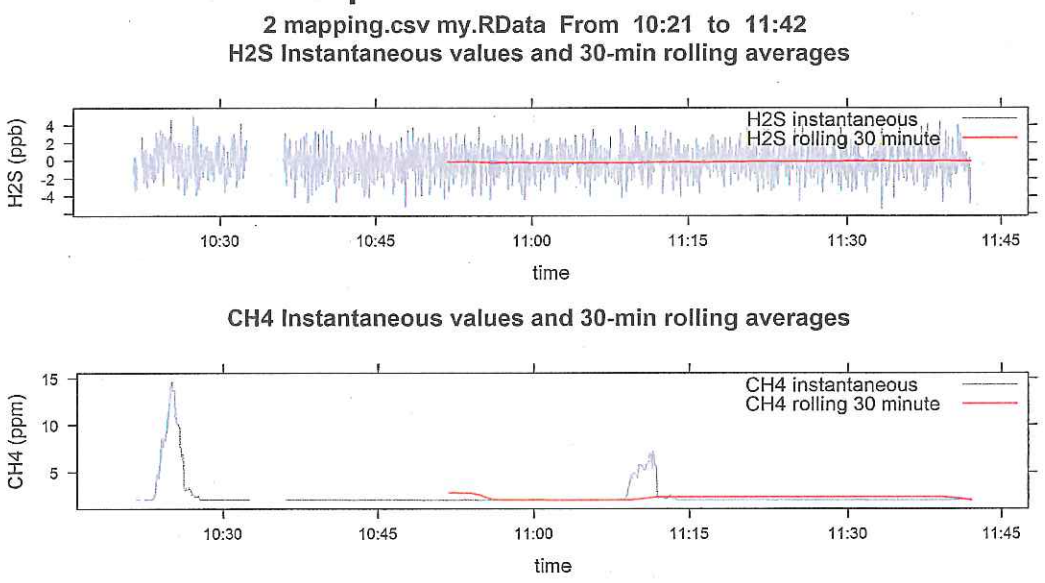


Figure 3

Map 3. Apex CH_4 concentration for 9-25-2013. Red arrow indicates North. The predominant wind direction for 09-23 to 09-25 is Southwest as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.

On Wednesday, September 25 H_2S and CH_4 were both measured close to the Apex landfill, but at lower levels than had been found on Monday (see Table 1 from 9/23 and Table 2 from 9/25). A circuit was made around the site, and several passes were made along the road west of the site where strong odors had been detected previously.

One Summa canister sample was collected on 9/25: canister 2277. Analysis results are found in Attachment 2.

Staff parked the system and met with representatives from the landfill and had a brief tour.

Field work ended early in the afternoon to permit travel to Sunny Farms in northwest Ohio.

Table 2

	H_2S (ppb)	CH_4 (ppm)
Minimum value	-3.9*	1.9
Median	0.6	1.9
Mean	0.6	2.3
Maximum value	5.2	14.6

* Raw values retrieved from the instrument are less than the minimum detection limit. Some negative drift exists in all analyzers. When this flag is reported negative drift was considered normal and not excessive (greater than -6 ppb)

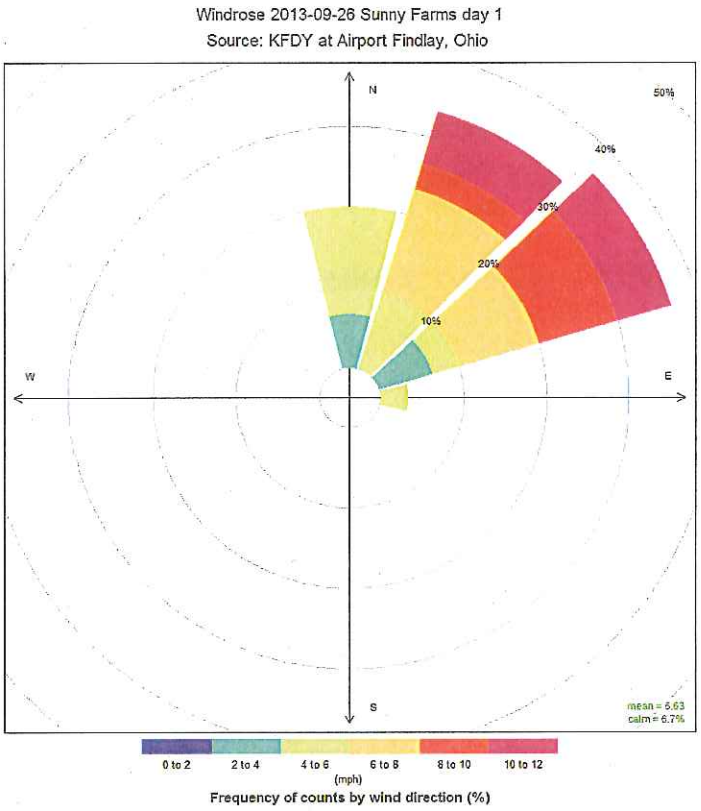


Figure 4

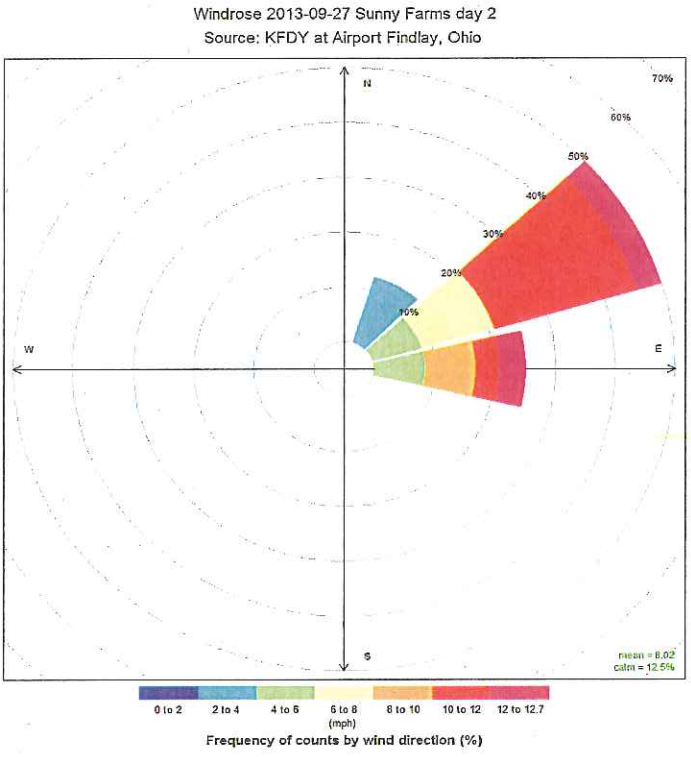


Figure 5

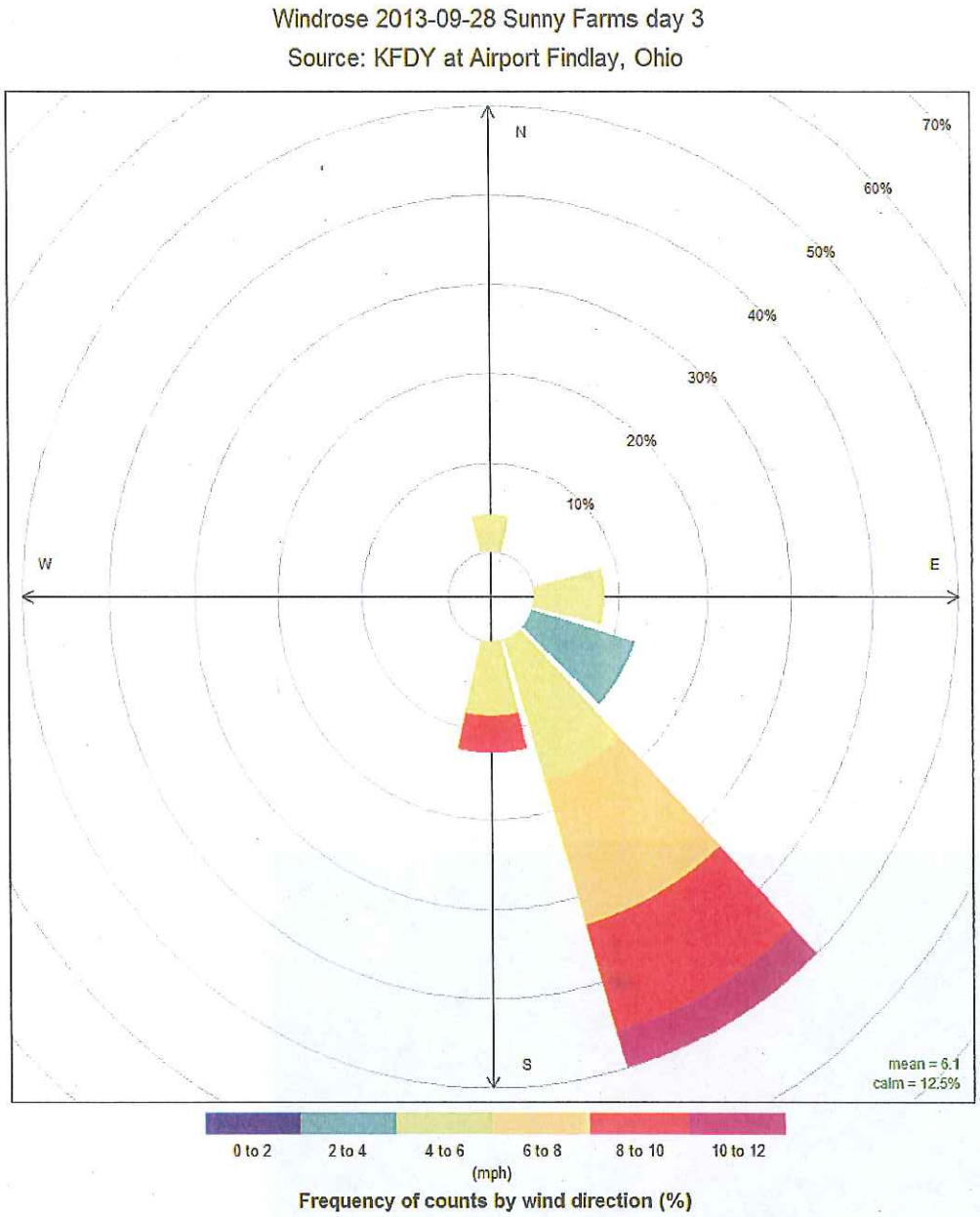


Figure 6

Wind speed and direction were more variable during the time at Sunny Farm. A wind rose has been created for each day of sampling at Sunny Farm. This wind rose was created using data from a local meteorological station rather than the instrument's meteorological sensors. The instrument's sensors generate usable data only during stationary field sampling when the vehicle is not in motion.

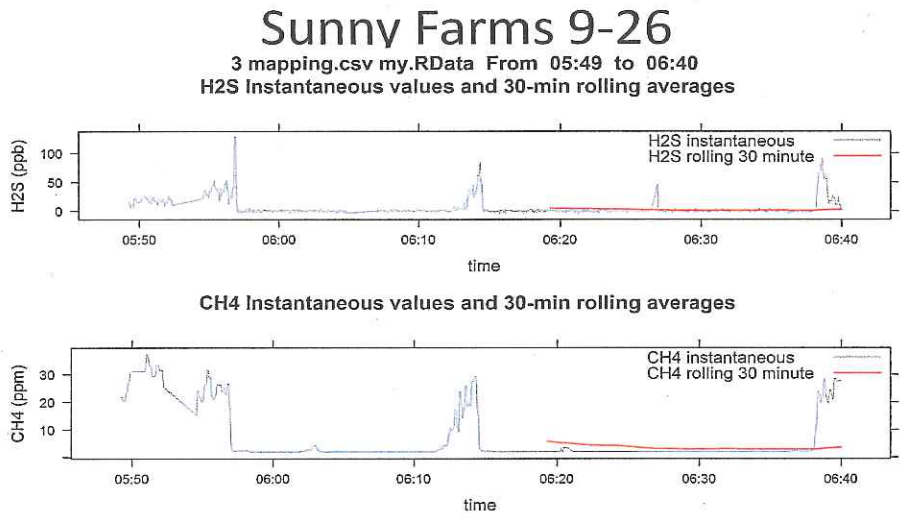
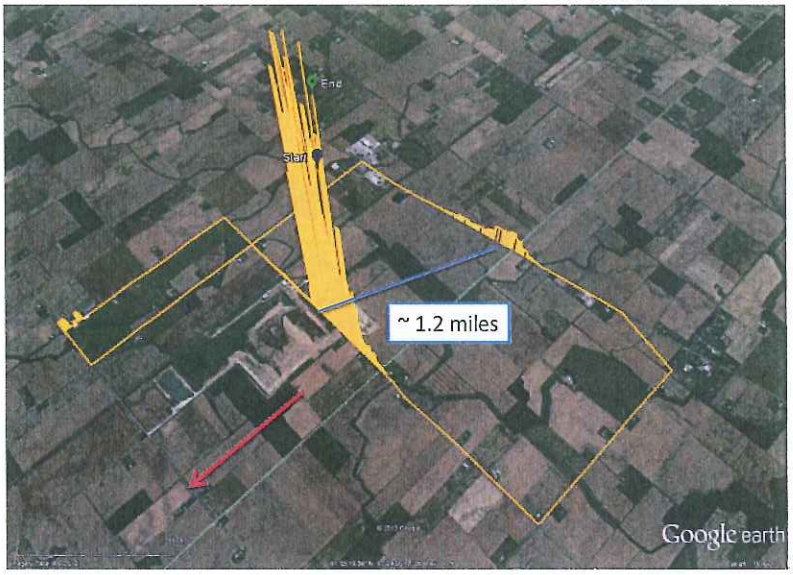


Figure 7

Map 4. Sunny Farms H_2S concentrations for 9-26-13. Red arrow points north. The predominant wind direction is South as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.



Map 5. Sunny Farms CH_4 concentration for 9-26-2013. Red arrow indicates North. The predominant wind direction is South as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.

Sampling began at Sunny Farms on Thursday, September 26; one campaign began early in the morning, with another campaign later in the evening. Heavy fog was present that morning, and staff were concerned about over-loading the system with moisture. Sampling commenced, and H_2S and CH_4 were both measured close to the landfill, with noticeable odors. Staff made a circuit around the site, and conducted several stationary surveys. Maximum value concentrations above the Agency for Toxic Substances and Disease Registry's (ATSDR) Minimal Risk Level (MRL) for H_2S were recorded on a private road owned by the company.

One Summa canister sample was collected on 9/26: canister 00194. Analysis results are found in Attachment 2.

Table 3

	H_2S (ppb)	CH_4 (ppm)
Minimum value	-3.7*	1.9
Median	0.9	1.9
Mean	3.5	4.5
Maximum value	111.2	37.1**

* Raw values retrieved from the instrument are less than the minimum detection limit. Some negative drift exists in all analyzers. When this flag is reported negative drift was considered normal and not excessive (greater than -6 ppb)

**This value exceeds the range of the monitor (20 ppm) and is reported as-is.

Sunny Farms 9-28

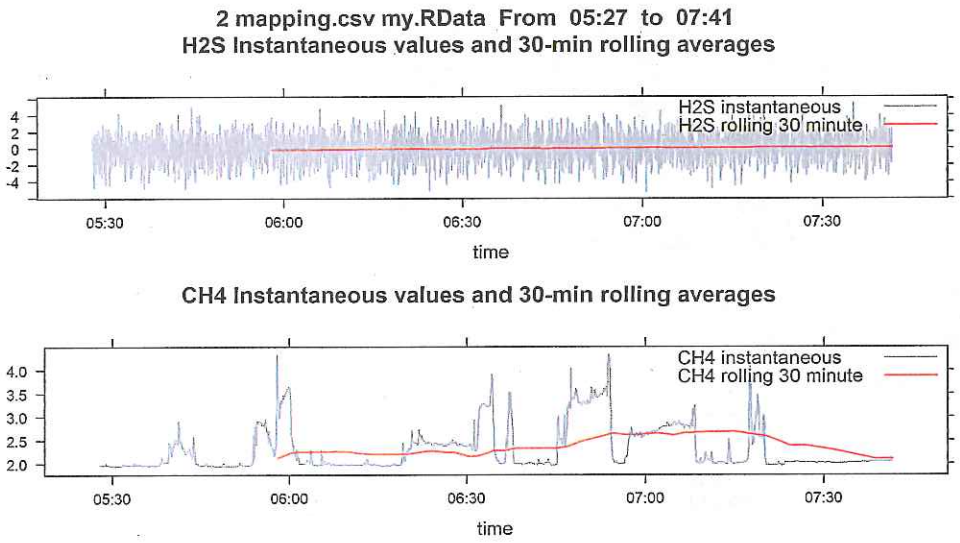


Figure 8

Map 6. Sunny Farms CH_4 concentrations for 9-28-13. Red arrow indicates north. The predominant wind direction is Southeast as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.

In the morning of September 28, sampling began at Sunny Farms. The weather forecast called for winds to shift direction; no fog was visible in the area. After measuring low levels of H_2S and CH_4, sampling ended.

Sampling resumed later in the afternoon; wind direction had shifted but wind speed remained low. Again low levels of H_2S and CH_4 were measured. See Table 4 for monitored concentrations.

Four SUMMA® canister samples were collected on 9/28: canisters 0201, 588, 1363, and 00198. Analysis results are found in Attachment 2.

Table 4

	H_2S (ppb)	CH_4 (ppm)
Minimum value	-4.5*	1.9
Median	0.7	2.0
Mean	0.7	2.3
Maximum value	5.5	4.3

* Raw values retrieved from the instrument are less than the minimum detection limit. Some negative drift exists in all analyzers. When this flag is reported negative drift was considered normal and not excessive (greater than -6 ppb)

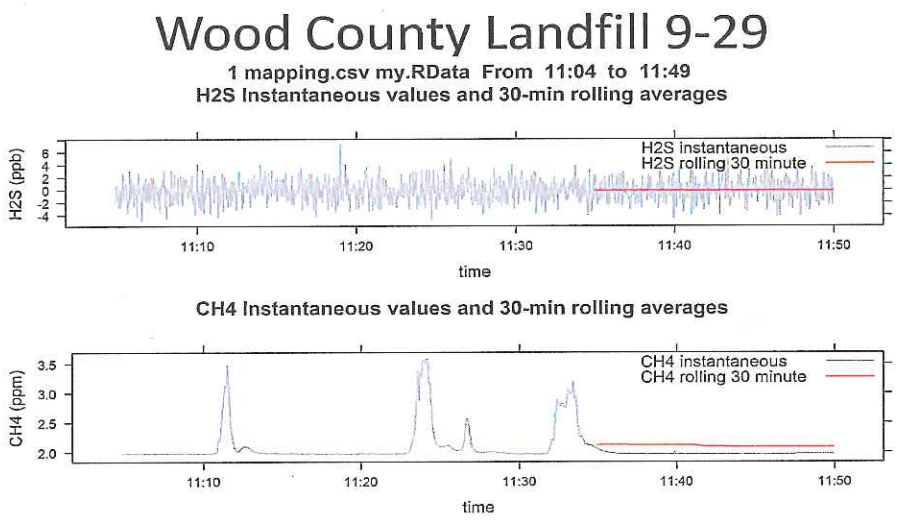
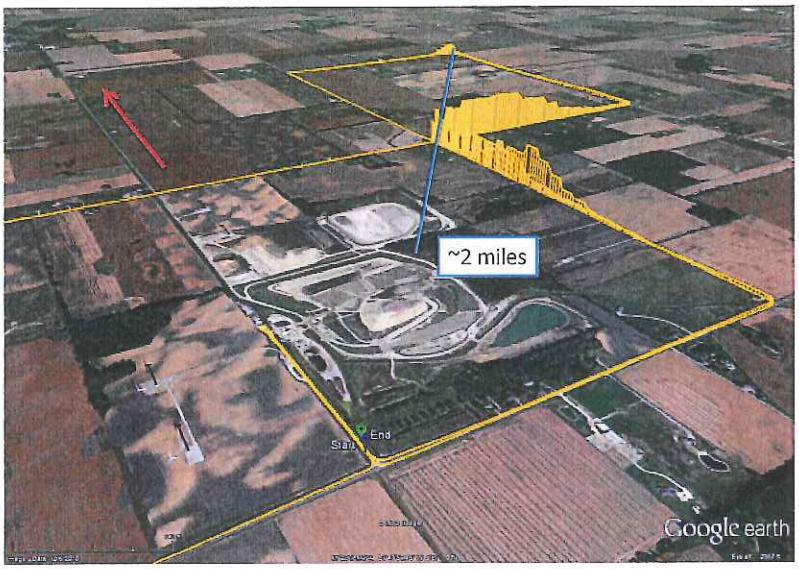


Figure 9



Map 7. Wood County Landfill CH_4 concentrations for 9-29-13. Red arrow indicates north. The predominant wind direction is Northeast as depicted in the wind rose above; this may not be reflective of the meteorological conditions when the instrument was sampling. Meteorological conditions from the instrument met sensors are not used when the vehicle is in motion.

R5 staff measured concentrations around The Wood County Landfill, CH4 and detected a CH_4 plume. CH_4 two miles away from the site.

Table 5

	H_2S (ppb)	CH_4 (ppm)
Minimum value	-3.4*	1.9
Median	0.6	1.9
Mean	0.6	2.0
Maximum value	7.0	3.5

* Raw values retrieved from the instrument are less than the minimum detection limit. Some negative drift exists in all analyzers. When this flag is reported negative drift was considered normal and not excessive (greater than -6 ppb)

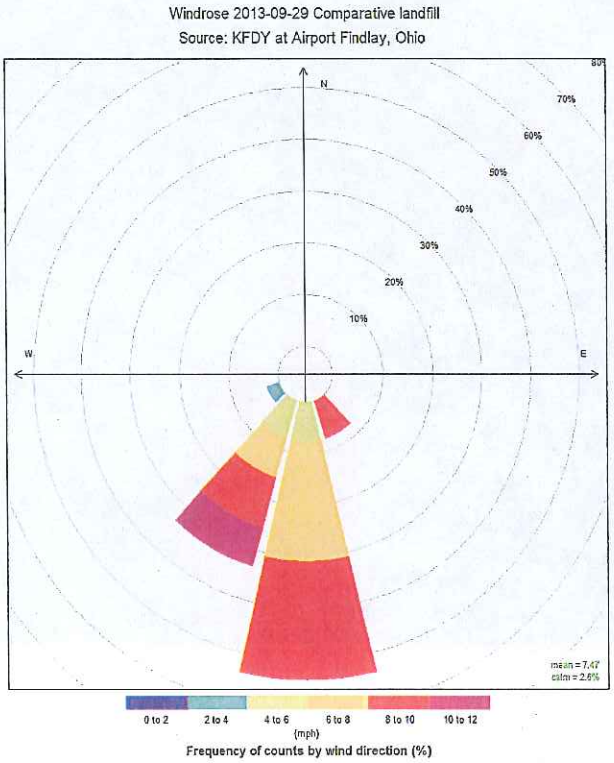


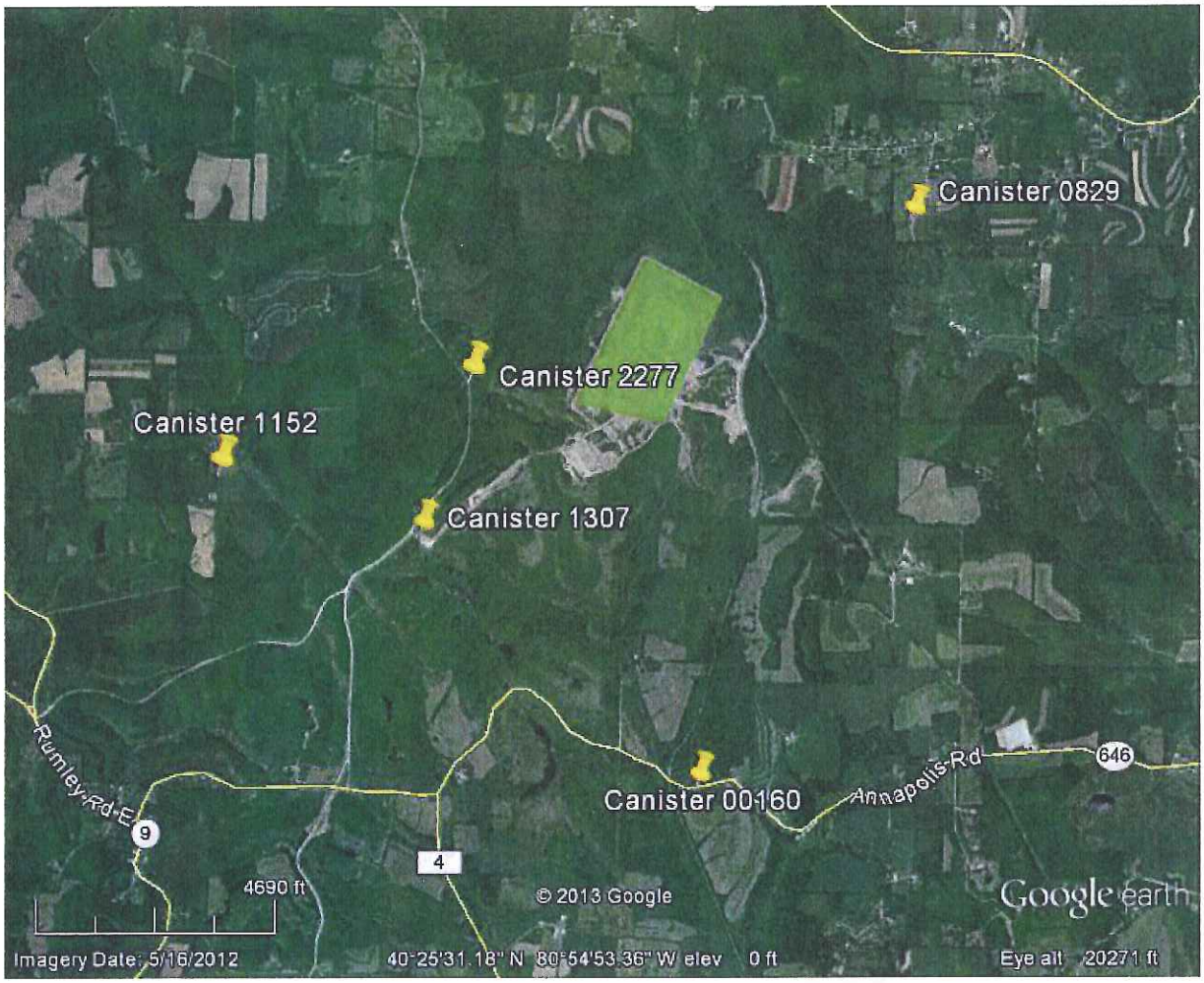
Figure 10

This wind rose represents conditions for the area around the Wood County Landfill using data from a local meteorological station

Volatile Organic Compounds

Five VOC grab samples were collected at the Apex Sanitary landfill near Amsterdam, OH, on September 23-25, 2013. Five samples were collected at the Sunny Farms landfill near Fostoria, OH, on September 26-28, 2013.

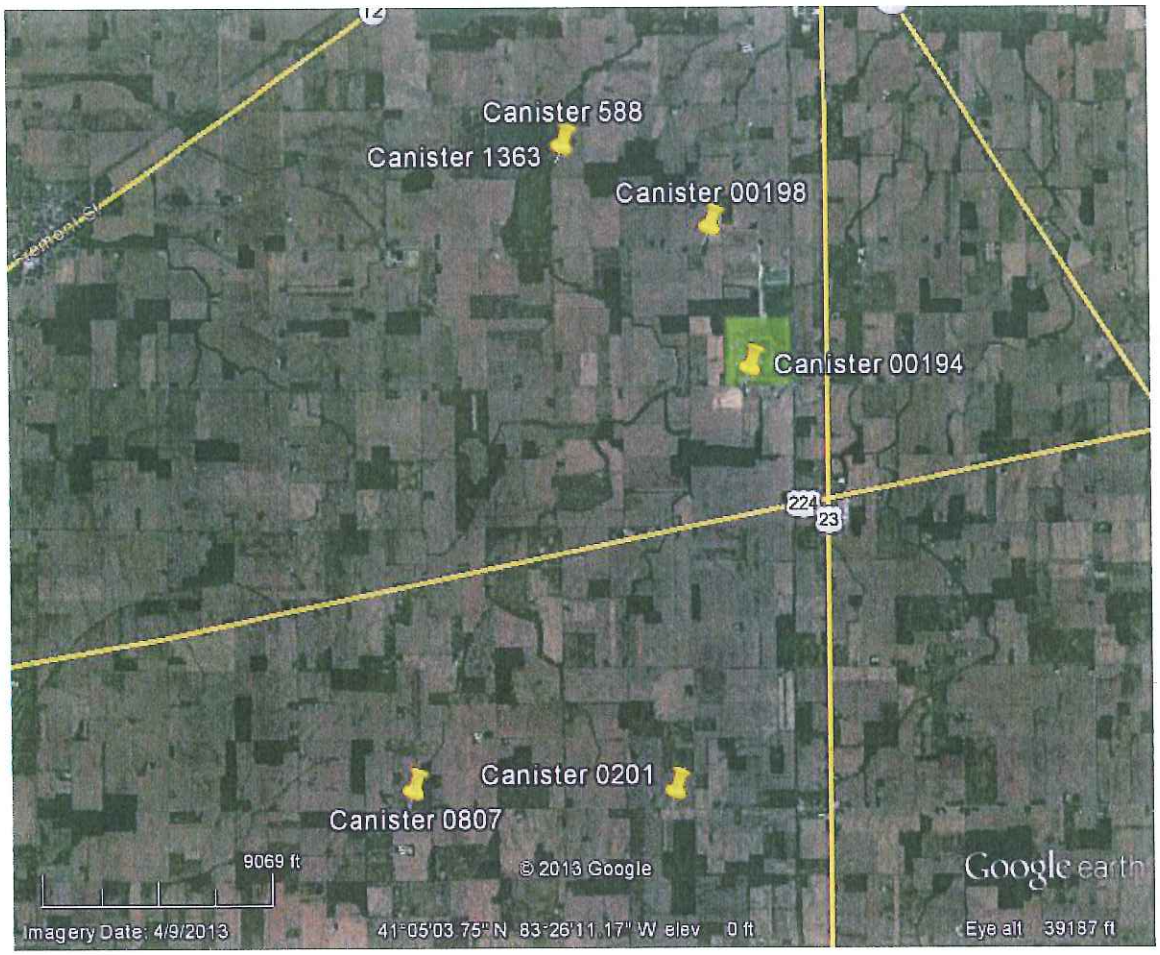
VOC samples were collected as nearly instantaneous grab samples – each canister filled up in less than one minute.



Map 8: Grab sample locations. The green area is Apex landfill.

At both study sites, the samples collected downwind of the landfill, i.e. in the plume, tended to have higher concentrations of reported VOCs than the background sample locations. This was true for BTEX, carbon disulfide, certain chlorinated VOCs, and other simple hydrocarbons.

Grab samples were limited in number and not collected at the same time, so we cannot quantify how high certain VOCs were in the center of the plume. The plumes cannot be characterized on the basis of VOC grab samples alone.



Map 9: Grab sample locations. The green area is Sunny Farms landfill.

Higher concentrations downwind do not necessarily mean that the compounds were emitted by the landfill itself. Some mobile-source VOCs (BTEX and other) could also be coming from the trucks working at the landfills and employee's vehicles.

Some of the 25 reported compounds appear to be the result of regional transport or sources not related to the landfills themselves. VOCs including Freon 113, acetone, and others were approximately the same in all samples or higher in background samples.

The grab samples were below health screening levels for chronic cancer (10-5 risk) and noncancer (RfC), as well as for acute screening levels with the one exception of acrolein, which is nearly always found to be above the RfC across the country. Grab sampling was extremely limited and not representative of short-term and long-term community exposures.

Quality Assurance Review

The cavity ring-down spectrometer, which measures H_2S and CH_4, was calibrated on September 3, 2013. One audit was performed before this project, on September 19th. An audit was performed after the project, on November 19th. Calibration and audit results are in Attachment 2

Due to an error in the way that the Data Acquisition System (DAS) merges records from the different sensors, some data were lost and most of the data files had to be re-merged by hand. Existing data from all sensors is considered valid and the quantity of data is considered sufficient.

The RM Young Ultrasonic Anemometer was calibrated by the manufacturer on April 26, 2013. Climatronics Corporation calibrated the AIO device on May 6, 2013. Global position systems are not independently certified, but the instrument reports degrees of precision and coordinates matched operator observations.

One of the samples was collected in duplicate. There was very good agreement in the parameters reported for both samples – out of 14 compounds above the MDL, 13 showed the two canisters were within 20% of the same concentration.

Minimum Detection Limits

The minimum detection limit for H_2S using the CRDS is calculated as 4 times the standard deviation of 10 minutes of measurements at 0 ppb H_2S. For this campaign this is approximately 6 ppb. The minimum detection limit for CH_4 using the CRDS is far below background levels and wasn't considered.

CRL achieves very low detection limits (0.05 ppb) for VOCs. The more ubiquitous compounds (e.g. benzene) were reported above MDLs for all samples. Less common parameters (e.g. MTBE) were nondetects in every sample. Out of 57 VOCs analyzed by EPA, 32 were nondetects in all samples; the remaining 25 compounds were measureable in some or all canisters.

Bias

All audit points were within 15 percent of reference values.

Findings and Discussion

The CH_4 plumes from Apex and Sunny Farm were measured approximately 7 miles and 2 miles, respectively, from the sites. Several other landfills between Sunny Farms and Chicago were found, and the team did a short mobile survey to see if other landfills had CH_4 plumes that travelled a similar distance away. The plume at Wood County Landfill travelled a similar distance from the site as Sunny Farms. The sites were not sampled under the same weather or operating conditions.

There were no indications that H2S or VOC values were above health screening levels on public property. The CH_4 plume at each landfill is well defined, but not enough samples were taken to quantitatively describe the VOC plume. VOC grab samples alone cannot be used to qualitatively characterize the emissions for the two landfills, nor should they be used to characterize long term community health risks.

Attachments

1. Calibration/Audit results
2. SUMMA® canister results

Calibration/Audit results

Audit 8-29-13

~~API 2-air SN 1653~~ ~~Dasibi 2-air~~ API 2-air SN 1653 JAM

Environics 6100 SN 3485

H_2S cyl FF56158 50.36 ppm Exp July 5, 2013 * last value upgrade.

* Picarro uses y-axis for "known" value

Values adjusted with regression from 6-25-13

x raw	y	x adj	gas	air	% H_2O	% Diff
	~~1200 ppb~~		~~95~~	3890		
1042.9	1000 ppb	850.8	79	3909	.43	-14.92 %

This just barely passes. The zero seems to have drifted down and the very low % H_2O might cause low values also. -JAM

Calibration 9-3-13

~~API 2-air SN 1653~~ Dasibi 2-air

Environics 6100 SN 3485

H_2S cyl ~~FF85379~~ FF85379-JAM 50.41 ppm Exp July 5, 2013 * See note before 1800 psi

* Picarro uses y-axis for "known"

x	y	gas	air	% H_2O
-5	0	0	3988	1.21
1069	1000	79	~~3900~~ 3908	1.34
519	500	40	3948	1.40
91	100	8	3989	1.48

Regression results

~~Int = 11.6~~ JAM

~~slope = .93~~

Int = 5

Slope = ~~.93~~ .95

JAM

Audit 9-3-13

Durabi 2 air

Environics 6100 SN 3485

H_2S cyl FF56158 50.36 ppm Exp July 5, 2013 * see note 1600 psi

* y axis is "known"

x_{raw}	y	x adj	gas	air	H_2O
-3	0	2	0	3988	1.55
1069	1000	1020	79	3908	1.48

JAM

Audit 9-19-13

Durabi 2 air

Environics 6100 SN 3485 * see note

H_2S cyl FF56158 50.36 ppm Exp July 5, 2013 1600 psi

* y axis is "known"

x_{raw}	y	x adj	gas	air	H_2O
-5.8	0	~~0.5~~ 05	0	3988	1.66
1013.6	1000	968	79	3909	1.66
88.0	100	89	8	3980	1.72

JAM

Audit 11-13-13

Durabi 2 air

Environics 6100 SN 3485 * see note

H_2S cyl FF56158 50.36 ppm Exp July 5, 2013 1600 psi

* y axis is "known"

x_{raw}	y	x adj	gas	air	H_2O
-6.4	0	-1.08	0	~~4003~~ 3987	~~1.8~~ 1.75
781	1000	937	79.1	3904	3.08
85	100	86	7.9	3975	3.38

H_4 cyl CC207940 10.25 ppm ~2000 psi

	X	Y
~~1600 psi~~	~~10.2~~	~~1~~
1600 psi	10.23	10.25
	.4	2

SAM

secrets

1600 psi

AM

set

500 psi

SUMMA® canister results

Notes on VOC grab samples collected during GMAP investigation of Ohio landfills

ARD-AMAS, February 21, 2014

OVERVIEW –

- VOC sampling was conducted under the QAPP titled "Geospatial Measurements of Air Pollution (GMAP) – Hydrogen Sulfide and Methane around landfills in Jefferson, Seneca, and Perry Counties, Ohio", dated September 20, 2013.
- The objective of VOC sampling was to identify compounds that may be associated with landfill emissions. To the extent possible, data will be used to characterize a relationship between ambient VOC and methane concentrations resulting from landfill emissions.
- Five VOC grab samples were collected at the Apex Sanitary landfill near Amsterdam, OH, on September 23-25, 2013. Five samples were collected at the Sunny Farms landfill near Fostoria, OH, on September 26-28, 2013.
- VOC samples were collected as nearly instantaneous grab samples – each canister filled up in less than one minute. This one-time sampling event cannot be used to extrapolate to acute (1-hour, 8-hour) or long-term chronic community exposures.

DATA QUALITY –

- CRL achieves very low detection limits (0.05 ppb) for VOCs. The more ubiquitous compounds (e.g. benzene) were reported above MDLs for all samples. Less common parameters (e.g. MTBE) were nondetects in every sample. Out of 57 VOCs analyzed by EPA, 32 were nondetects in all samples; the remaining 25 compounds were measureable in some or all canisters.
- One of the samples was collected in duplicate. There was very good agreement in the parameters reported for both samples – out of 14 compounds above the MDL, 13 showed the two canisters were within 20% of the same concentration.

QUALITATIVE FINDINGS –

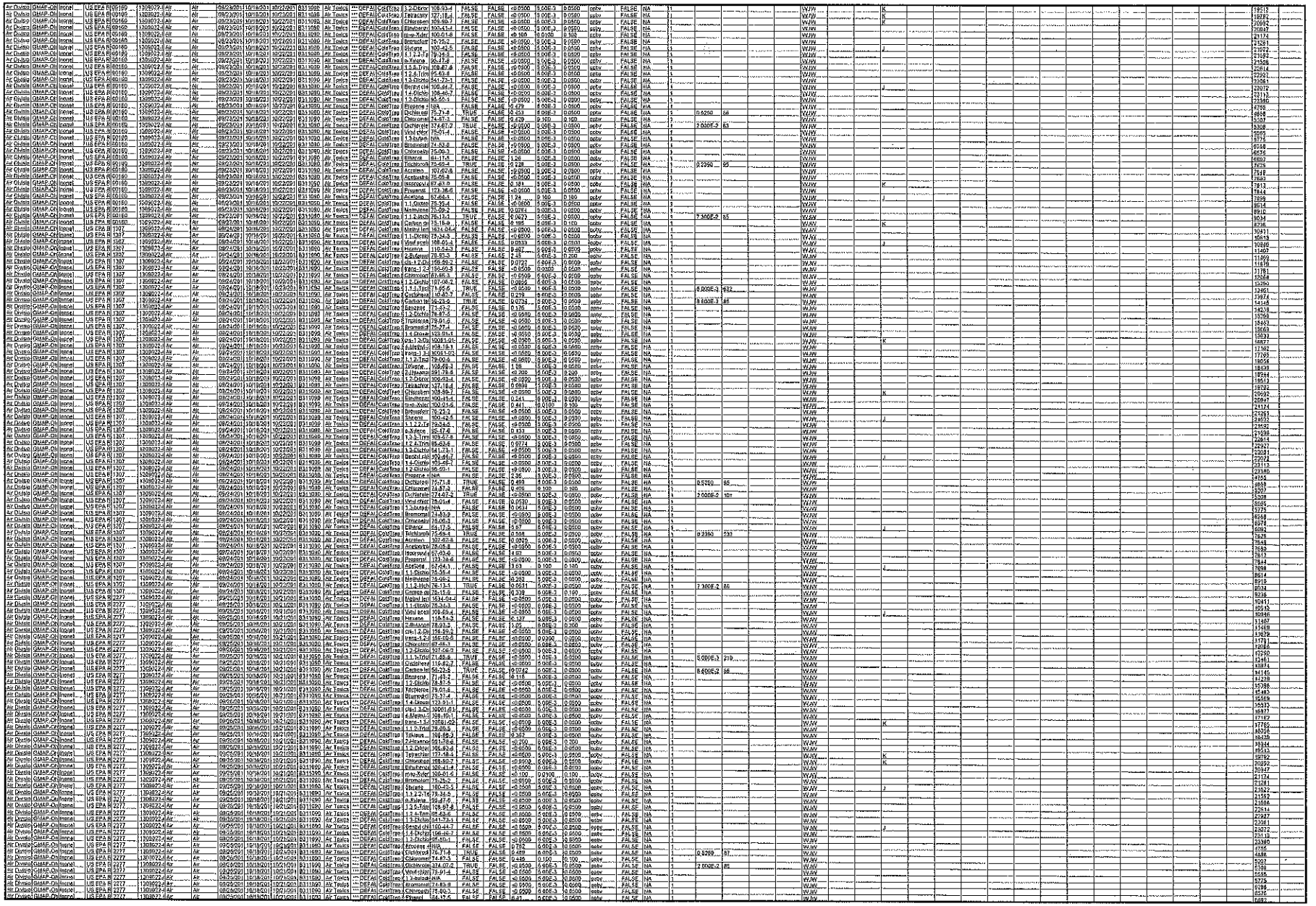
- At both study sites, the samples collected downwind of the landfill, i.e. in the plume, tended to have higher concentrations of reported VOCs than the background sample locations. This was true for BTEX, carbon disulfide, certain chlorinated VOCs, and other simple hydrocarbons.
- Grab samples were limited in number and not collected at the same time, so we cannot quantify how high certain VOCs were in the center of the plume. The plumes cannot be characterized on the basis of VOC grab samples alone. However, continuous methane data from the GMAP will be interpreted together with the grab samples in order to define the relationship between VOCs and methane. This data analysis will be described in a future report.
- Higher concentrations downwind do not necessarily mean that the compounds were emitted by the landfill itself. Some mobile-source VOCs (BTEX and other) could also be coming from the trucks working at the landfills and employee's vehicles.
- Some of the 25 reported compounds appear to be the result of regional transport or sources not related to the landfills themselves. VOCs including Freon 113, acetone, and others were approximately the same in all samples or higher in background samples.
- The grab samples were below health screening levels for chronic cancer (10^{-5} risk) and noncancer (RfC), as well as for acute screening levels. The one exception is acrolein, which is nearly always found to be above the RfC across the country. Grab sampling was extremely limited and not representative of short-term and long-term community exposures. These results should not be used to rule out potential VOC health risks.

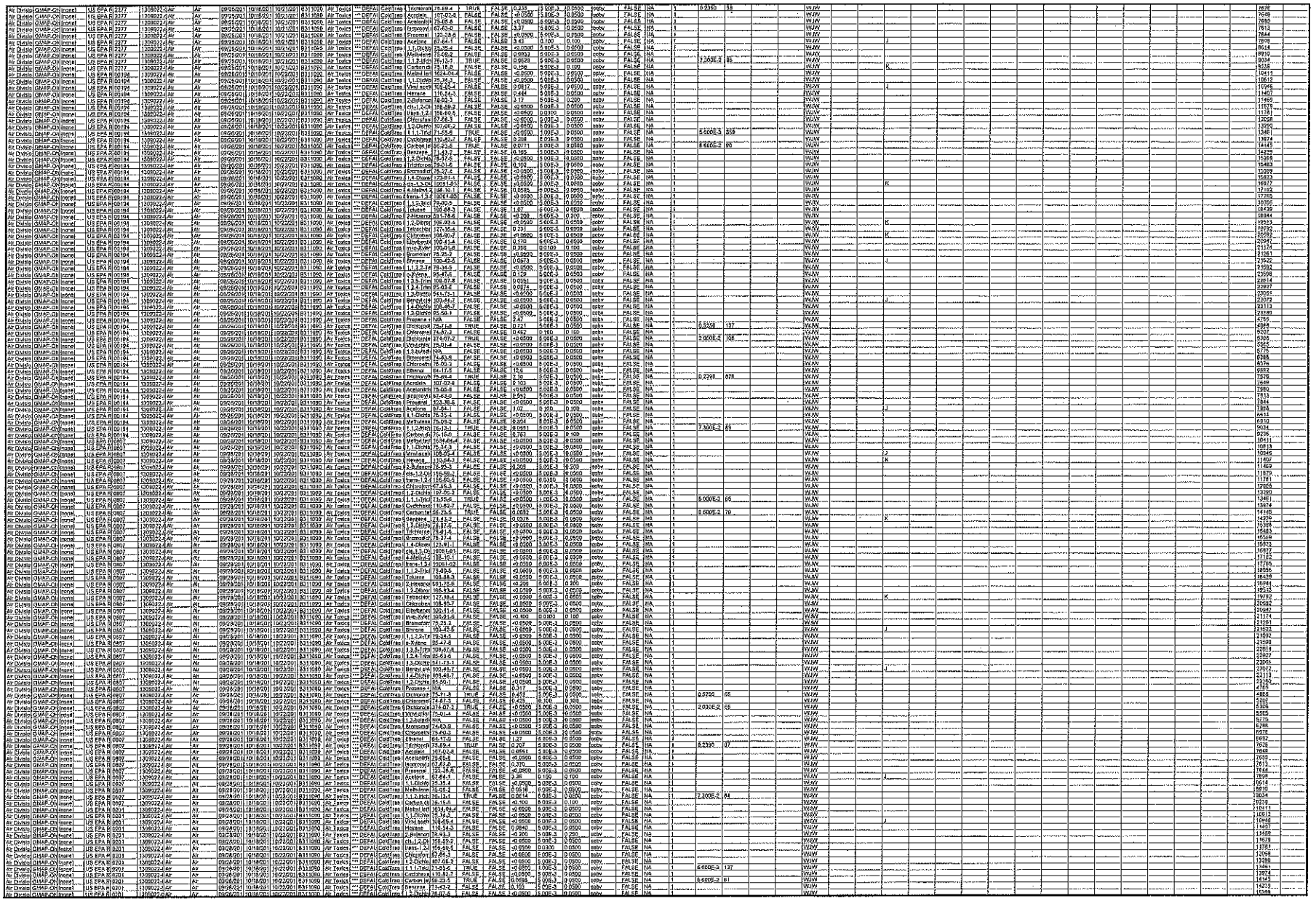
CONCLUSIONS –

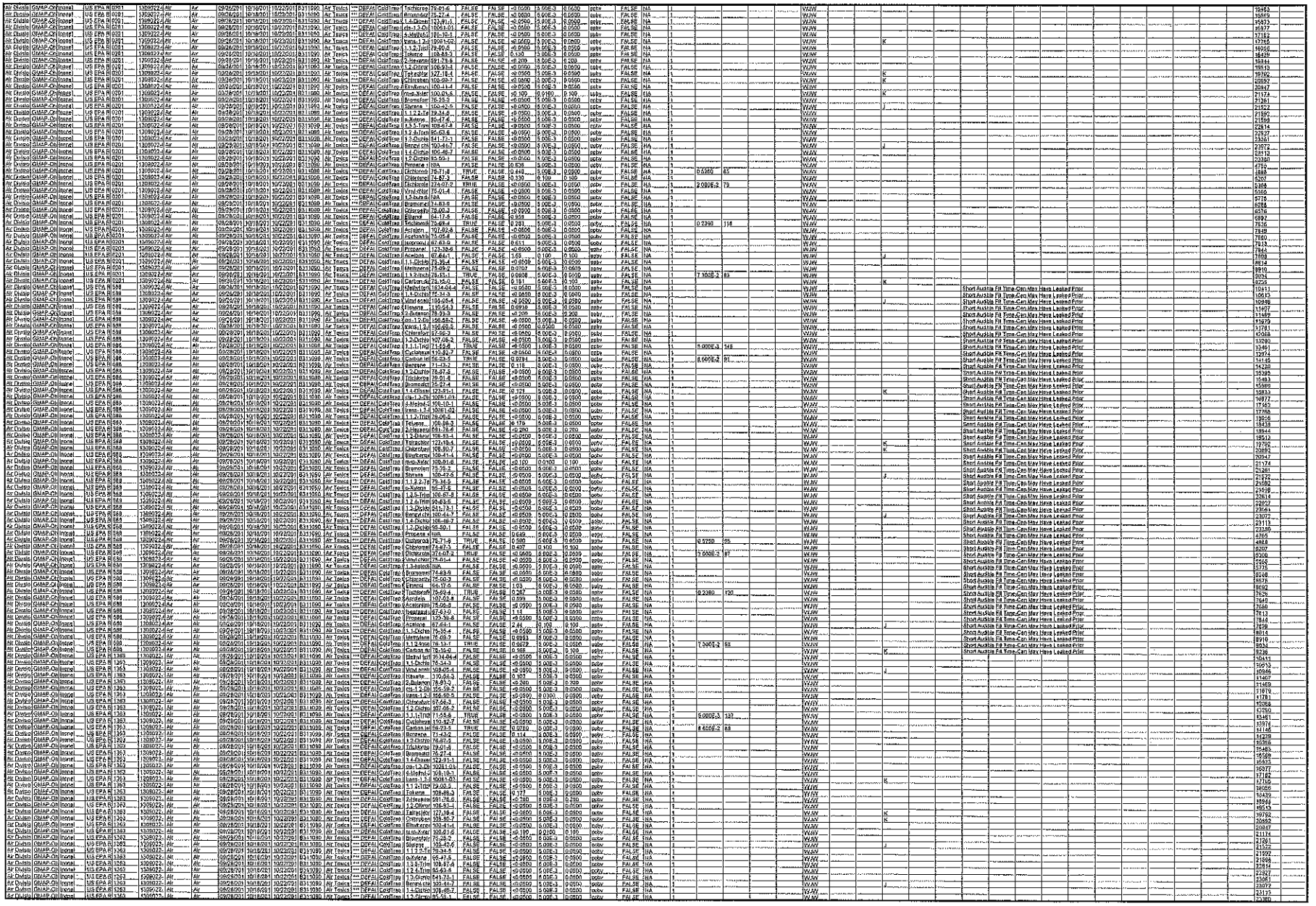
- VOC grab sample alone cannot be used to qualitatively characterize the emissions from the two landfills. Nor can they be used to characterize community health risks. If data are presented to the public, then disclaimers to this effect should be included.
- Results qualitatively show that certain VOCs are associated with the two studied landfills.

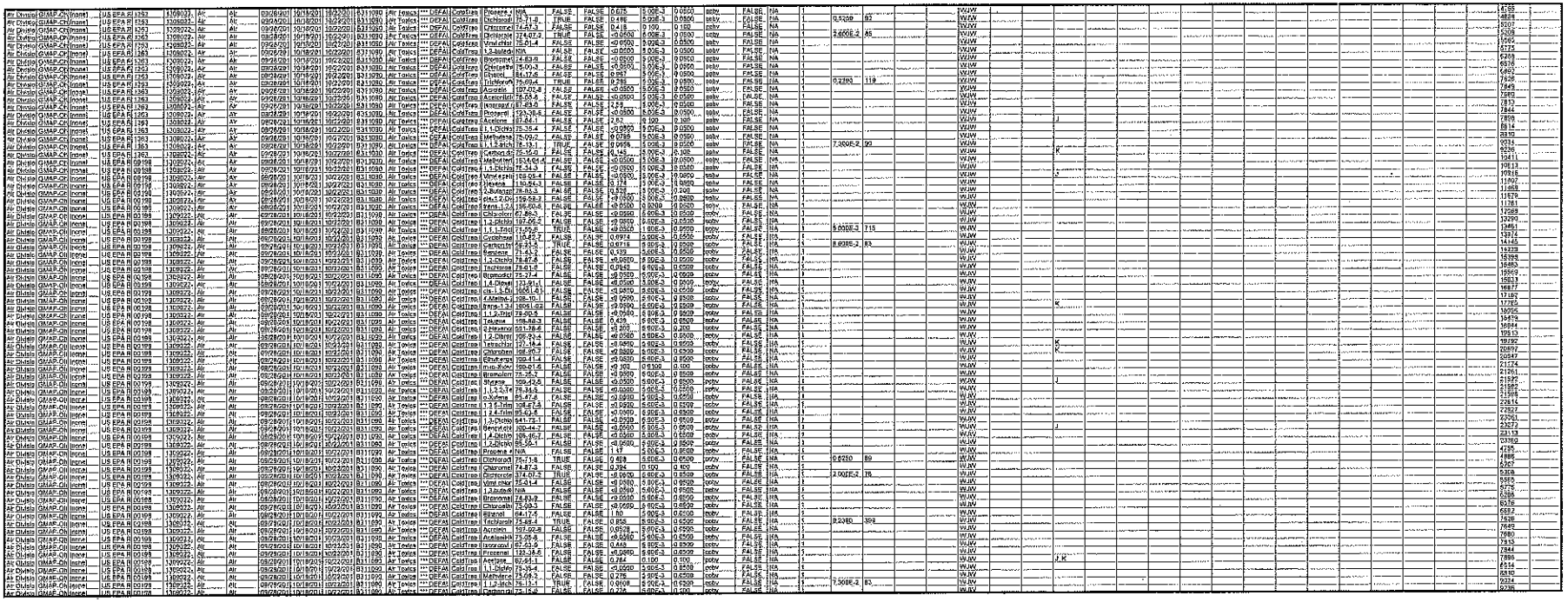
SAMPDATA

CLIENT_	PROJECT	PROJECT	LabName	SAMPLE	LABSAMP	MATRIX	RPTMAT	SAMPDAT	PREPDAT	ANADAT	BATCH	METHOD	METHOD	PREPNAM	ANALYTE	CASNUM	SURROG	TIC	Result	DL	RL	UNITS	RPTOMDL	BASIS	DILUTION	SPIKELE	RECOVE	UPPERCL	LOWERC	ANALYST	PSOLIDS	LNOTE	ANOTE	LATITUD	LONGITU	eCommen	SNOTE1	SNOTE2	SNOTE3	SNOTE4	SNOTE5	SNOTE6	SNOTE7	SNOTE8	SNOTE9	SNOTE10	ANALYTEORDER
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Methyl tert	1634-04-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10411
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1-Dichlo	75-34-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10613
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Vinyl acetat	108-05-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														10946
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Hexane	110-54-3	FALSE	FALSE	0.0632	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	11407
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Butanone	78-93-3	FALSE	FALSE	<0.200	5.00E-3	0.200	ppbv	FALSE	NA	1					WJW																	11469
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,2-Di	156-59-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	11579
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,2-	156-60-5	FALSE	FALSE	<0.0500	0.0300	0.0500	ppbv	FALSE	NA	1					WJW																	11781
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chloroform	67-66-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	12066
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	107-06-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13290
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,1-Trich	71-55-6	TRUE	FALSE	<0.0500	1.00E-3	0.0500	ppbv	FALSE	NA	1	5.000E-3	67			WJW																	13461
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Cyclohexa	110-82-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13974
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Carbon tet	56-23-5	TRUE	FALSE	0.0678	5.00E-3	0.0500	ppbv	FALSE	NA	1	8.600E-2	79			WJW																	14145
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Benzene	71-43-2	FALSE	FALSE	0.0816	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	14239
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	78-87-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15390
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Trichloroe	79-01-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15483
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromodichl	75-27-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15559
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,4-Dioxan	123-91-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15833
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,3-Di	10061-01-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	16877
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	4-Methyl-2	108-10-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	17162
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,3-	10061-02-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	17765
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2-Trich	79-00-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18056
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Toluene	108-88-3	FALSE	FALSE	0.0789	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18439
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Hexanone	591-78-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18944
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dibrom	106-93-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	19513
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Tetrachlor	127-18-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														19792
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chlorobenz	108-90-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	20692
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Ethylbenz	100-41-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	20947
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	m+p-Xylen	100-01-6	FALSE	FALSE	<0.100	0.0100	0.100	ppbv	FALSE	NA	1					WJW			K														21174
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromoform	75-25-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21261
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Styrene	100-42-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														21522
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2,2-Te	79-34-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21692
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	o-Xylene	95-47-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21598
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3,5-Trim	108-67-8	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	22614
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2,4-Trim	95-63-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	22927
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3-Dichlo	541-73-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23061
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Benzyl chl	100-44-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														23072
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,4-Dichlo	106-46-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23113
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	95-50-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23380
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Propene +	NA	FALSE	FALSE	0.247	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	4765
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Dichlorodi	75-71-8	TRUE	FALSE	0.453	5.00E-3	0.0500	ppbv	FALSE	NA	1	0.5250	85			WJW																	4908
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chlorometh	74-87-3	FALSE	FALSE	0.429	0.100	0.100	ppbv	FALSE	NA	1					WJW																	5207
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Dichlorote	374-07-2	TRUE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1	2.000E-2	68			WJW																	5308
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Vinyl chlor	75-01-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	5565
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3-butadi	NA	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	5775
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromometh	74-83-9	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6208
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chloroeth	75-00-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6576
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Ethanol	64-17-5	FALSE	FALSE	0.834	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6592
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Trichlorofl	75-69-4	TRUE	FALSE	0.204	5.00E-3	0.0500	ppbv	FALSE	NA	1	0.2350	85			WJW																	7626
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acrolein	107-02-8	FALSE	FALSE	0.0529	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	7649
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acetonitril	75-05-8	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	7680
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Isopropyl	67-63-0	FALSE	FALSE	0.405	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														7813
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Propanal	123-38-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	7844
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acetone	67-64-1	FALSE	FALSE	1.92	0.100	0.100	ppbv	FALSE	NA	1					WJW																	7898
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1-Dichlo	75-35-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	8614
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Methylene	75-09-2	FALSE	FALSE	0.0598	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	8910
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2-trich	76-13-1	TRUE	FALSE	0.0607	5.00E-3	0.0500	ppbv	FALSE	NA	1	7.300E-2	83			WJW																	9034
Air Divisio	GMAP-Oh	[none]	US EPA R	0829	1309022-	Air	Air	09/23/201	10/18/201	10/21/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Carbon di	75-15-0	FALSE	FALSE	<0.100	5.00E-3	0.100	ppbv	FALSE	NA	1					WJW																	9236
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Methyl tert	1634-04-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10411
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1-Dichlo	75-34-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10613
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Vinyl acetat	108-05-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														10946
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Hexane	110-54-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														11407
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Butanone	78-93-3	FALSE	FALSE	<0.200	5.00E-3	0.200	ppbv	FALSE	NA	1					WJW																	11469
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,2-Di	156-59-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	11579
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,2-	156-60-5	FALSE	FALSE	<0.0500	0.0300	0.0500	ppbv	FALSE	NA	1					WJW																	11781
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chloroform	67-66-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	12066
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	107-06-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13290
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,1-Trich	71-55-6	TRUE	FALSE	<0.0500	1.00E-3	0.0500	ppbv	FALSE	NA	1	5.000E-3	239			WJW																	13461
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Cyclohexa	110-82-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13974
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Carbon tet	56-23-5	TRUE	FALSE	0.0757	5.00E-3	0.0500	ppbv	FALSE	NA	1	8.600E-2	80			WJW																	14145
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Benzene	71-43-2	FALSE	FALSE	0.0654	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	14239
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	78-87-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15390
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Trichloroe	79-01-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15483
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromodichl	75-27-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15559
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,4-Dioxan	123-91-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15833
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,3-Di	10061-01-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	16877
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	4-Methyl-2	108-10-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	17162
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,3-	10061-02-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														17765
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2-Trich	79-00-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18056
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Toluene	108-88-3	FALSE	FALSE	0.107	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18439
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Hexanone	591-78-6	FALSE	FALSE	<0.200	5.00E-3	0.200	ppbv	FALSE	NA	1					WJW																	18944
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dibrom	106-93-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														19513
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Tetrachlor	127-18-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														19792
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chlorobenz	108-90-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														20692
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Ethylbenz	100-41-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	20947
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	m+p-Xylen	100-01-6	FALSE	FALSE	<0.100	0.0100	0.100	ppbv	FALSE	NA	1					WJW																	21174
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromoform	75-25-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21251
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Styrene	100-42-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														21522
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2,2-Te	79-34-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21692
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	o-Xylene	95-47-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	21598
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3,5-Trim	108-67-8	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	22614
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2,4-Trim	95-63-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	22927
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3-Dichlo	541-73-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23051
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Benzyl chl	100-44-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														23072
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,4-Dichlo	106-46-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23113
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	95-50-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	23380
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Propene +	NA	FALSE	FALSE	0.272	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	4765
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Dichlorodi	75-71-8	TRUE	FALSE	0.450	5.00E-3	0.0500	ppbv	FALSE	NA	1	0.5250	86			WJW																	4888
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chlorometh	74-87-3	FALSE	FALSE	0.373	0.100	0.100	ppbv	FALSE	NA	1					WJW																	5207
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Dichlorote	374-07-2	TRUE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1	2.000E-2	63			WJW																	5308
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Vinyl chlor	75-01-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	5565
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,3-butadi	NA	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	5776
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromometh	74-83-9	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6286
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chloroeth	75-00-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6576
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Ethanol	64-17-5	FALSE	FALSE	0.341	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	6592
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Trichlorofl	75-69-4	TRUE	FALSE	0.220	5.00E-3	0.0500	ppbv	FALSE	NA	1	0.2290	93			WJW																	7526
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acrolein	107-02-8	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	7649
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acetonitril	75-05-8	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	7680
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Isopropyl	67-63-0	FALSE	FALSE	<0.0500	0.0150	0.0500	ppbv	FALSE	NA	1					WJW																	7813
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Propanal	123-38-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														7844
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Acetone	67-64-1	FALSE	FALSE	0.913	0.100	0.100	ppbv	FALSE	NA	1					WJW																	7898
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1-Dichlo	75-35-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	8614
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Methylene	75-09-2	FALSE	FALSE	0.0770	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	8910
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2-trich	76-13-1	TRUE	FALSE	0.0639	5.00E-3	0.0500	ppbv	FALSE	NA	1	7.300E-2	87			WJW																	9034
Air Divisio	GMAP-Oh	[none]	US EPA R	1152	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Carbon di	75-15-0	FALSE	FALSE	0.300	5.00E-3	0.100	ppbv	FALSE	NA	1					WJW																	9236
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Methyl tert	1634-04-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10411
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1-Dichlo	75-34-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	10613
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Vinyl acetat	108-05-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			J														10946
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Hexane	110-54-3	FALSE	FALSE	0.0730	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	11407
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Butanone	78-93-3	FALSE	FALSE	0.282	5.00E-3	0.200	ppbv	FALSE	NA	1					WJW																	11469
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,2-Di	156-59-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	11579
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,2-	156-60-5	FALSE	FALSE	<0.0500	0.0300	0.0500	ppbv	FALSE	NA	1					WJW																	11781
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Chloroform	67-66-3	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	12066
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	107-06-2	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13290
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,1-Trich	71-55-6	TRUE	FALSE	<0.0500	1.00E-3	0.0500	ppbv	FALSE	NA	1	5.000E-3	200			WJW																	13461
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Cyclohexa	110-82-7	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	13974
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Carbon tet	56-23-5	TRUE	FALSE	0.0728	5.00E-3	0.0500	ppbv	FALSE	NA	1	8.600E-2	95			WJW																	14145
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Benzene	71-43-2	FALSE	FALSE	0.0788	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	14239
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,2-Dichlo	78-87-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15390
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Trichloroe	79-01-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15483
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Bromodichl	75-27-4	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15560
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,4-Dioxan	123-91-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	15833
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	cis-1,3-Di	10061-01-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														16877
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	4-Methyl-2	108-10-1	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	17162
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	trans-1,3-	10061-02-6	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW			K														17765
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	1,1,2-Trich	79-00-5	FALSE	FALSE	<0.0500	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18056
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	Toluene	108-88-3	FALSE	FALSE	0.251	5.00E-3	0.0500	ppbv	FALSE	NA	1					WJW																	18439
Air Divisio	GMAP-Oh	[none]	US EPA R	00160	1309022-	Air	Air	09/23/201	10/18/201	10/22/201	B311090	Air Toxics	*** DEFAU	ColdTrap	2-Hexanone	591-78-6	FALSE	FALSE	<0.200	5.00E-3	0.200	ppbv	FALSE	NA	1					WJW																	18944









UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate # L2280 Testing

Date: 1/22/2014

Subject: Review of Region 5 Data for GMAP-Ohio Landfills

From: Wayne Whipple
Region 5 Chicago Regional Laboratory Wayne J. Whipple

To: Air Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60605

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-0375 for any comments or questions.

Attached are Results for: GMAP-Ohio Landfills

_____ / /

Data Management Coordinator and Date Received

Date Transmitted: ____/____/_____

Analyses included in this report:

Air Toxics Reimer 5

Environmental Protection Agency Region 5
Chicago Regional Laboratory
536 South Clark Street, Chicago, IL 60605
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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Analysis Case Narrative for Volatile Organic Compounds (VOC) Air Toxics

Wayne J. Whipple, Ph.D.
phone (312) 353-9063
email whipple.wayne@epa.gov <mailto:whipple.wayne@epa.gov>

General Information

Twelve canisters (ten 1.4 L QT Valve and two 2.7 L Nupro Valve) arrived on 30 September, 2013 in good condition and were analyzed within holding time. Pressure was measured in the 1.4 L canisters only and each canister was pressurized to above ambient pressure approximately three weeks after the samples were received into the laboratory. All 1.4 L canisters were slightly lower than ambient pressure suggesting there was minimal leakage, although the sampling pressure was not recorded in the field for comparison. Because they were still below ambient pressure, no data were qualified. The samples then were pressurized before analysis. The two 2.7 L canisters did not need pressurization because of the integrity of the Nupro valves.

Standard Operating Procedures (SOP) and Method Deviations

Each sample that was collected in the 1.4 L canisters was initially diluted to 1.5 times the pressure to minimize canister leaking contamination issues, although they were pressurized over 18 days from arrival. The SOP suggests pressurizing the canisters within 3 days of arrival, but does not require this practice. All 1.4L canister pressures were below ambient pressure so it is believed there were no significant bottle or valve leaks.

To monitor if any valves leaked during the time away from the laboratory a car freshener that contained a primary active ingredient of *d*-limonene was placed in the carton containing the bottles. If a canister leaked over the time from sample to analysis a *d*-limonene peak would have been detected and there was no d-limonene detected in any of the samples.

Ethanol is flagged estimated because it was higher than the calibration curve and the laboratory has not demonstrated the accuracy of the result in this batch.

Sample Monitoring compounds do not meet the SOP criteria for ambient atmosphere in many of the samples because this air is from landfills that are very likely to contain sources of Freons like old refrigerators and other waste that contains Freons. The SOP has allowances for other ambient sources but neglected to include any potential point sources like landfills that can greatly influence the Freon results.

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77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Data Archive:

This data will be electronically transmitted. Hard copies of the summary results are kept at CRL and detailed reports are archived electronically on the server. All supporting data are electronically archived on R5CRL/MS/AirToxics/1309022 GMAPS Ohio Landfills.

Sample Analysis and Results

Samples were analyzed for VOC Air Toxics using SOP MS-005 Revision 6 with cold trap dehydration preconcentrator. (Reference Method US EPA TO-15).

All sampling canisters were clean tested before shipping. The summary results from the clean tests are included in the data package. Any contamination that was around 3 to 5 times the amount in the sample caused the sample to be flagged as high bias, "K".

Method blank contamination either required the detection and/or reporting limit to be raised to the level detected in the sample meaning that the laboratory could not confidently detect the analyte in the sample below that reporting level. Some of the method blanks that were close to the 5X limit have been flagged K as high bias depending on the analyte.

The samples are reported to the reporting limit but qualifiers were applied to the detection limits in the LIMS. There are many un-detects with qualifiers of K which apply to results below the reporting limit. Please ignore the qualifier.

Quality Control

The quality control was acceptable with the exception of the extension of the method blank run for the least diluted analysis for three samples and a duplicate. For the three samples the higher dilutions were compared and all the data reported showed no contamination with significantly higher concentrations in the 10 cc analysis compared to the 1cc analysis and therefore there is no qualification necessary. The diluted sample was compared to the original analysis and no significant contamination was observed and no data was qualified.

Acetone, vinyl acetate, styrene and benzyl chloride all had results in the second source standard, initial calibration verification (ICV) that were outside the SOP acceptance criteria. These compounds were flagged as estimated.

Some compounds in the calibration curve had a greater % difference in one or more of the lower concentration calibration levels than allowed by the SOP and therefore the reporting limit was raised to the lowest concentration

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that was acceptable for all the samples. Compounds reporting limits raised to 0.100 ppbv: chloromethane , acetone, carbon disulfide, and compounds reporting limits raised to 0.200 ppbv were methyl ethyl ketone, 2-hexanone.

System Monitoring Compounds that are reported in the sample reports at the lower part of each sample result have some concentrations higher than the tolerance which is established from the global background concentrations from the National Oceanographic and Atmospheric Administration. Because the samples are from a waste site it would be possible that many of these values may be much higher than the global background concentrations. Freon 11 and 1,1,1-trichloroethane are the two compounds that are seen in relatively high concentrations. When samples are taken from a suspected source for many of these compounds the laboratory does not flag any data for exceedances of the SOP limits.

Analyst Signature Wayne J. Schipper (If applicable) Date 1/21/2014 2:46 PM

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
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Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
0829	1309022-01	Air	Sep-23-13 19:44	Sep-30-13 09:00
1152	1309022-02	Air	Sep-23-13 21:00	Sep-30-13 09:00
00160	1309022-03	Air	Sep-23-13 00:00	Sep-30-13 09:00
1307	1309022-04	Air	Sep-24-13 11:15	Sep-30-13 09:00
2277	1309022-05	Air	Sep-25-13 10:45	Sep-30-13 09:00
00194	1309022-06	Air	Sep-26-13 00:00	Sep-30-13 09:00
0807	1309022-07	Air	Sep-28-13 14:42	Sep-30-13 09:00
0201	1309022-08	Air	Sep-28-13 05:49	Sep-30-13 09:00
588	1309022-09	Air	Sep-28-13 06:00	Sep-30-13 09:00
1363	1309022-10	Air	Sep-28-13 06:04	Sep-30-13 09:00
00198	1309022-11	Air	Sep-28-13 07:30	Sep-30-13 09:00

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
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Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)
US EPA Region 5 Chicago Regional Laboratory

0829 (1309022-01) Air Sampled: Sep-23-13 19:44 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.247			0.0500	ppbv	1	B311090	Oct-18-13	Oct-21-13
Chloromethane	0.420			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	0.884			0.0500	"	"	"	"	"
Acrolein	0.0629			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.405	K		0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	1.92			0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0598			0.0500	"	"	"	"	"
Carbon disulfide	U			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.0632			0.0500	"	"	"	"	"
2-Butanone	U			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.0816			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

0829 (1309022-01) Air Sampled: Sep-23-13 19:44 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U			0.0500	ppbv	1	B311090	Oct-18-13	Oct-21-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.0799			0.0500	"	"	"	"	"
2-Hexanone	U			0.0500	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U			0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U	K		0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.450	*86%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*68%*		"	"	"
Surrogate: Trichlorofluoromethane	0.204	*85%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0607	*83%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*67%*		"	"	"
Surrogate: Carbon tetrachloride	0.0679	*79%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

1152 (1309022-02) Air Sampled: Sep-23-13 21:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.212			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.373			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	0.341			0.0500	"	"	"	"	"
Acrolein	U			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	U			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	0.913	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0770			0.0500	"	"	"	"	"
Carbon disulfide	0.300			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	U	K		0.0500	"	"	"	"	"
2-Butanone	U			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.0854			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

1152 (1309022-02) Air Sampled: Sep-23-13 21:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.107			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U	K		0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.450	*86%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*83%*		"	"	"
Surrogate: Trichlorofluoromethane	0.223	*93%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0639	*87%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*239%*		"	"	"
Surrogate: Carbon tetrachloride	0.0767	*89%*		"	"	"

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Chicago Regional Laboratory
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Phone:(312)353-8370 Fax:(312)886-2591

Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

00160 (1309022-03) Air Sampled: Sep-23-13 00:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.479			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.420			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	1.26			0.0500	"	"	"	"	"
Acrolein	U			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.181	K		0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	1.24	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0764			0.0500	"	"	"	"	"
Carbon disulfide	0.195	K		0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.0730			0.0500	"	"	"	"	"
2-Butanone	0.382			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.0788			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U	K		0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60605	Project: GMAP-Ohio Landfills Project Number: [none] Project Manager: Chad McEvoy	Reported: Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

00160 (1309022-03) Air Sampled: Sep-23-13 00:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.251			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U	K		0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.453	*86%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*83%*		"	"	"
Surrogate: Trichlorofluoromethane	0.228	*95%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0623	*85%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*200%*		"	"	"
Surrogate: Carbon tetrachloride	0.0728	*85%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)
US EPA Region 5 Chicago Regional Laboratory

1307 (1309022-04) Air Sampled: Sep-24-13 11:15 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	2.36			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.406			0.100	"	"	"	"	"
Vinyl chloride	0.0520			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	0.0634			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	5.67	J		0.0500	"	"	"	"	"
Acrolein	0.0825			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	4.62			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	3.53	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.252			0.0500	"	"	"	"	"
Carbon disulfide	0.339			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	0.0533	J		0.0500	"	"	"	"	"
Hexane	0.407			0.0500	"	"	"	"	"
2-Butanone	2.45			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	0.0722			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	0.0656			0.0500	"	"	"	"	"
Cyclohexane	0.219			0.0500	"	"	"	"	"
Benzene	0.175			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U	K		0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"
trans-1,3-Dichloropropene	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

1307 (1309022-04) Air Sampled: Sep-24-13 11:15 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
1,1,2-Trichloroethane	U			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Toluene	1.56			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	0.0998			0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	0.241			0.0500	"	"	"	"	"
m+p-Xylene	0.441			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	0.133			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	0.0774			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.499	*95%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*101%*		"	"	"
Surrogate: Trichlorofluoromethane	0.558	*233%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0631	*86%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*632%*		"	"	"
Surrogate: Carbon tetrachloride	0.0734	*85%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

2277 (1309022-05) Air Sampled: Sep-25-13 10:45 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.752			0.0500	ppbv	1	B311090	Oct-18-13	Oct-21-13
Chloromethane	0.445			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	6.41			0.0500	"	"	"	"	"
Acrolein	U			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	3.37			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	3.43	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0933			0.0500	"	"	"	"	"
Carbon disulfide	0.156	K		0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.137			0.0500	"	"	"	"	"
2-Butanone	1.05			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.115			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)
US EPA Region 5 Chicago Regional Laboratory

2277 (1309022-05) Air Sampled: Sep-25-13 10:45 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-21-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.362			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.459	*87%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*85%*		"	"	"
Surrogate: Trichlorofluoromethane	0.235	*98%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0629	*86%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*210%*		"	"	"
Surrogate: Carbon tetrachloride	0.0742	*86%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

00194 (1309022-06) Air Sampled: Sep-26-13 00:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	2.47			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.462			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	12.6			0.0500	"	"	"	"	"
Acrolein	0.103			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.562			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	1.07	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.304			0.0500	"	"	"	"	"
Carbon disulfide	0.763			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	0.0617	J		0.0500	"	"	"	"	"
Hexane	0.444			0.0500	"	"	"	"	"
2-Butanone	3.17			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	0.208			0.0500	"	"	"	"	"
Benzene	0.165			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	0.102			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U	K		0.0500	"	"	"	"	"
4-Methyl-2-pentanone	0.0595			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

00194 (1309022-06) Air Sampled: Sep-26-13 00:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	1.07			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U	K		0.0500	"	"	"	"	"
Tetrachloroethene	0.231			0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	0.170			0.0500	"	"	"	"	"
m+p-Xylene	0.358			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	0.0673	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	0.129			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	0.0551			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	0.0874			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.721	*137%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*108%*		"	"	"
Surrogate: Trichlorofluoromethane	2.10	*878%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0651	*89%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*359%*		"	"	"
Surrogate: Carbon tetrachloride	0.0771	*90%*		"	"	"

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Chicago Regional Laboratory
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Phone:(312)353-8370 Fax:(312)886-2591

Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

0807 (1309022-07) Air Sampled: Sep-28-13 14:42 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.317			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.425			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	1.27			0.0500	"	"	"	"	"
Acrolein	0.0561			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.370			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	3.36	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0516			0.0500	"	"	"	"	"
Carbon disulfide	U			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	U	K		0.0500	"	"	"	"	"
2-Butanone	0.309			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.0575	K		0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

0807 (1309022-07) Air Sampled: Sep-28-13 14:42 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	U			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U			0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.452	*86%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*66%*		"	"	"
Surrogate: Trichlorofluoromethane	0.207	*87%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0614	*84%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*65%*		"	"	"
Surrogate: Carbon tetrachloride	0.0682	*79%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

0201 (1309022-08) Air Sampled: Sep-28-13 05:49 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.636			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.330			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	0.959			0.0500	"	"	"	"	"
Acrolein	U			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.611			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	1.55	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0707			0.0500	"	"	"	"	"
Carbon disulfide	0.151	K		0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.0840			0.0500	"	"	"	"	"
2-Butanone	U			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.103			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

0201 (1309022-08) Air Sampled: Sep-28-13 05:49 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.130			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U	K		0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.448	*85%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*79%*		"	"	"
Surrogate: Trichlorofluoromethane	0.283	*118%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0606	*83%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*137%*		"	"	"
Surrogate: Carbon tetrachloride	0.0698	*81%*		"	"	"

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77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

588 (1309022-09) Air Sampled: Sep-28-13 06:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.649			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.407			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	1.03			0.0500	"	"	"	"	"
Acrolein	0.593			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	1.14			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	2.44	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0963			0.0500	"	"	"	"	"
Carbon disulfide	0.166	K		0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.0930			0.0500	"	"	"	"	"
2-Butanone	U			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.116			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	0.121	K		0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

588 (1309022-09) Air Sampled: Sep-28-13 06:00 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.170			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.500	*95%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*87%*		"	"	"
Surrogate: Trichlorofluoromethane	0.287	*120%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0679	*93%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*146%*		"	"	"
Surrogate: Carbon tetrachloride	0.0784	*91%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

1363 (1309022-10) Air Sampled: Sep-28-13 06:04 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	0.675			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.418			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	0.967			0.0500	"	"	"	"	"
Acrolein	U			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	2.58			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	2.82	J		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.0789			0.0500	"	"	"	"	"
Carbon disulfide	0.145	K		0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.102			0.0500	"	"	"	"	"
2-Butanone	U			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	U			0.0500	"	"	"	"	"
Benzene	0.114			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	U			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)

US EPA Region 5 Chicago Regional Laboratory

1363 (1309022-10) Air Sampled: Sep-28-13 06:04 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.177			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.486	*92%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*85%*		"	"	"
Surrogate: Trichlorofluoromethane	0.285	*119%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0658	*90%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*137%*		"	"	"
Surrogate: Carbon tetrachloride	0.0760	*88%*		"	"	"

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)
US EPA Region 5 Chicago Regional Laboratory

00198 (1309022-11) Air Sampled: Sep-28-13 07:30 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Propene + propane	1.17			0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
Chloromethane	0.394			0.100	"	"	"	"	"
Vinyl chloride	U			0.0500	"	"	"	"	"
1,3-butadiene + n-butane	U			0.0500	"	"	"	"	"
Bromomethane	U			0.0500	"	"	"	"	"
Chloroethane	U			0.0500	"	"	"	"	"
Ethanol	1.80			0.0500	"	"	"	"	"
Acrolein	0.0528			0.0500	"	"	"	"	"
Acetonitrile	U			0.0500	"	"	"	"	"
Isopropyl alcohol	0.448			0.0500	"	"	"	"	"
Propanal	U			0.0500	"	"	"	"	"
Acetone	0.784	J, K		0.100	"	"	"	"	"
1,1-Dichloroethene	U			0.0500	"	"	"	"	"
Methylene chloride	0.276			0.0500	"	"	"	"	"
Carbon disulfide	0.278			0.100	"	"	"	"	"
Methyl tert-butyl ether	U			0.0500	"	"	"	"	"
1,1-Dichloroethane	U			0.0500	"	"	"	"	"
Vinyl acetate	U	J		0.0500	"	"	"	"	"
Hexane	0.174			0.0500	"	"	"	"	"
2-Butanone	0.526			0.200	"	"	"	"	"
cis-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
trans-1,2-Dichloroethene	U			0.0500	"	"	"	"	"
Chloroform	U			0.0500	"	"	"	"	"
1,2-Dichloroethane	U			0.0500	"	"	"	"	"
Cyclohexane	0.0974			0.0500	"	"	"	"	"
Benzene	0.139			0.0500	"	"	"	"	"
1,2-Dichloropropane	U			0.0500	"	"	"	"	"
Trichloroethene	0.0540			0.0500	"	"	"	"	"
Bromodichloromethane	U			0.0500	"	"	"	"	"
1,4-Dioxane	U			0.0500	"	"	"	"	"
cis-1,3-Dichloropropene	U			0.0500	"	"	"	"	"
4-Methyl-2-pentanone	U			0.0500	"	"	"	"	"

Wayne J. Whipple

Wayne Whipple, Analyst

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Air Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60605	Project: GMAP-Ohio Landfills Project Number: [none] Project Manager: Chad McEvoy	Reported: Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified)
US EPA Region 5 Chicago Regional Laboratory

00198 (1309022-11) Air Sampled: Sep-28-13 07:30 Received: Sep-30-13 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
trans-1,3-Dichloropropene	U	K		0.0500	ppbv	1	B311090	Oct-18-13	Oct-22-13
1,1,2-Trichloroethane	U			0.0500	"	"	"	"	"
Toluene	0.439			0.0500	"	"	"	"	"
2-Hexanone	U			0.200	"	"	"	"	"
1,2-Dibromoethane (EDB)	U			0.0500	"	"	"	"	"
Tetrachloroethene	U	K		0.0500	"	"	"	"	"
Chlorobenzene	U	K		0.0500	"	"	"	"	"
Ethylbenzene	U			0.0500	"	"	"	"	"
m+p-Xylene	U			0.100	"	"	"	"	"
Bromoform	U			0.0500	"	"	"	"	"
Styrene	U	J		0.0500	"	"	"	"	"
1,1,2,2-Tetrachloroethane	U			0.0500	"	"	"	"	"
o-Xylene	U			0.0500	"	"	"	"	"
1,3,5-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,2,4-Trimethylbenzene	U			0.0500	"	"	"	"	"
1,3-Dichlorobenzene	U			0.0500	"	"	"	"	"
Benzyl chloride	U	J		0.0500	"	"	"	"	"
1,4-Dichlorobenzene	U			0.0500	"	"	"	"	"
1,2-Dichlorobenzene	U			0.0500	"	"	"	"	"

	Result	%REC	%REC Limits	Batch	Prepared	Analyzed
Surrogate: Dichlorodifluoromethane	0.468	*89%*		"	"	"
Surrogate: Dichlorotetrafluoroethane	U	*78%*		"	"	"
Surrogate: Trichlorofluoromethane	0.955	*399%*		"	"	"
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (F	0.0606	*83%*		"	"	"
Surrogate: 1,1,1-Trichloroethane	U	*715%*		"	"	"
Surrogate: Carbon tetrachloride	0.0716	*83%*		"	"	"

Wayne J. Whipple

Wayne Whipple, Analyst

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

Blank (B311090-BLK1) **Prepared: Oct-18-13 Analyzed: Oct-21-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propene + propane	U			0.0500	ppbv						
Chloromethane	U			0.100	"						
Vinyl chloride	U			0.0500	"						
1,3-butadiene	U			0.0500	"						
1,3-butadiene + n-butane	U			0.0500	"						
Bromomethane	U			0.0500	"						
Chloroethane	U			0.0500	"						
Ethanol	U			0.0500	"						
Acrolein	U			0.0500	"						
Acetonitrile	U			0.0500	"						
Isopropyl alcohol	0.0648			0.0500	"						
Propanal	U			0.0500	"						
Acetone	0.205	J		0.100	"						
1,1-Dichloroethene	U			0.0500	"						
Methylene chloride	U			0.0500	"						
Carbon disulfide	U			0.100	"						
Methyl tert-butyl ether	U			0.0500	"						
1,1-Dichloroethane	U			0.0500	"						
Vinyl acetate	U	J		0.0500	"						
Hexane	U			0.0500	"						
2-Butanone	U			0.200	"						
cis-1,2-Dichloroethene	U			0.0500	"						
trans-1,2-Dichloroethene	U			0.0500	"						
Chloroform	U			0.0500	"						
1,2-Dichloroethane	U			0.0500	"						
Cyclohexane	U			0.0500	"						
Benzene	U			0.0500	"						
1,2-Dichloropropane	U			0.0500	"						
Trichloroethene	U			0.0500	"						
Bromodichloromethane	U			0.0500	"						
1,4-Dioxane	U			0.0500	"						
cis-1,3-Dichloropropene	U			0.0500	"						
4-Methyl-2-pentanone	U			0.0500	"						

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

Blank (B311090-BLK1) Prepared: Oct-18-13 Analyzed: Oct-21-13

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	U			0.0500	ppbv						
1,1,2-Trichloroethane	U			0.0500	"						
Toluene	U			0.0500	"						
2-Hexanone	U			0.200	"						
1,2-Dibromoethane (EDB)	U			0.0500	"						
Tetrachloroethene	U			0.0500	"						
Chlorobenzene	U			0.0500	"						
Ethylbenzene	U			0.0500	"						
m+p-Xylene	U			0.100	"						
Bromoform	U			0.0500	"						
Styrene	U	J		0.0500	"						
1,1,2,2-Tetrachloroethane	U			0.0500	"						
o-Xylene	U			0.0500	"						
1,3,5-Trimethylbenzene	U			0.0500	"						
1,2,4-Trimethylbenzene	U			0.0500	"						
1,3-Dichlorobenzene	U			0.0500	"						
Benzyl chloride	U	J		0.0500	"						
1,4-Dichlorobenzene	U			0.0500	"						
1,2-Dichlorobenzene	U			0.0500	"						

	Result	Units	Spike Level	%REC	%REC Limits
Surrogate: Dichlorodifluoromethane	*U*	"	*0.5250*	*%*	
Surrogate: Dichlorotetrafluoroethane	*U*	"	*2.000E-2*	*%*	
Surrogate: Trichlorofluoromethane	*U*	"	*0.2390*	*%*	
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (Freon	*U*	"	*7.300E-2*	*%*	
Surrogate: 1,1,1-Trichloroethane	*U*	"	*5.000E-3*	*%*	
Surrogate: Carbon tetrachloride	*U*	"	*8.600E-2*	*%*	

LCS (B311090-BS1) Prepared: Oct-18-13 Analyzed: Oct-21-13

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propene	0.981			0.0500	ppbv	1.000		98%	76-112		
Chloromethane	0.943			0.100	"	1.000		94%	77.6-116		
Vinyl chloride	0.980			0.0500	"	1.000		98%	77.4-117		
1,3-butadiene	0.982			0.0500	"	1.000		98%	77.7-115		
Bromomethane	0.979			0.0500	"	1.000		98%	75.2-117		
Chloroethane	0.982			0.0500	"	1.000		98%	79.8-114		
Acrolein	0.979			0.0500	"	1.000		98%	67.9-130		
Acetonitrile	U			0.0500	"				71.1-136		
Isopropyl alcohol	0.988			0.0500	"	1.000		99%	81-106		
Propanal	U			0.0500	"				26.2-161		
Acetone	0.940	J		0.100	"	1.000		94%	60-137		
1,1-Dichloroethene	0.984			0.0500	"	1.000		98%	77.3-118		
Methylene chloride	0.987			0.0500	"	1.000		99%	78.7-117		
Carbon disulfide	0.894			0.100	"	1.000		89%	53-140		
Methyl tert-butyl ether	0.987			0.0500	"	1.000		99%	79.1-118		
1,1-Dichloroethane	0.992			0.0500	"	1.000		99%	79.8-117		
Vinyl acetate	1.03	J		0.0500	"	1.000		103%	85-106		
Hexane	0.998			0.0500	"	1.000		100%	70.1-121		
2-Butanone	1.06			0.200	"	1.000		106%	82-108		
cis-1,2-Dichloroethene	0.997			0.0500	"	1.000		100%	78.1-115		
trans-1,2-Dichloroethene	0.985			0.0500	"	1.000		98%	0-200		
Chloroform	0.991			0.0500	"	1.000		99%	79.6-115		
1,2-Dichloroethane	0.992			0.0500	"	1.000		99%	79.8-115		
Cyclohexane	0.991			0.0500	"	1.000		99%	72.5-119		
Benzene	0.971			0.0500	"	1.000		97%	75.7-118		
1,2-Dichloropropane	0.993			0.0500	"	1.000		99%	76.8-118		
Trichloroethene	1.00			0.0500	"	1.000		100%	70.1-119		
Bromodichloromethane	0.998			0.0500	"	1.000		100%	75.8-117		
1,4-Dioxane	1.00			0.0500	"	1.000		100%	54.7-150		
cis-1,3-Dichloropropene	0.995			0.0500	"	1.000		100%	75.5-115		
4-Methyl-2-pentanone	1.02			0.0500	"	1.000		102%	62.9-133		
trans-1,3-Dichloropropene	1.00			0.0500	"	1.000		100%	75.8-117		
1,1,2-Trichloroethane	0.906			0.0500	"	1.000		91%	92.3-106		
Toluene	0.986			0.0500	"	1.000		99%	73.2-120		

Environmental Protection Agency Region 5
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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

LCS (B311090-BS1) — **Prepared: Oct-18-13 Analyzed: Oct-21-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
2-Hexanone	1.04			0.200	ppbv	1.000		104%	76-110		
1,2-Dibromoethane (EDB)	1.01			0.0500	"	1.000		101%	75.5-118		
Tetrachloroethene	0.984			0.0500	"	1.000		98%	67.1-125		
Chlorobenzene	0.980			0.0500	"	1.000		98%	68.5-121		
Ethylbenzene	0.980			0.0500	"	1.000		98%	74.9-118		
m+p-Xylene	2.01			0.100	"	2.000		101%	79.8-121		
Bromoform	1.01			0.0500	"	1.000		101%	72.4-119		
Styrene	1.01	J		0.0500	"	1.000		101%	71.5-122		
1,1,2,2-Tetrachloroethane	0.984			0.0500	"	1.000		98%	92-106		
o-Xylene	1.02			0.0500	"	1.000		102%	77.6-124		
1,3,5-Trimethylbenzene	1.01			0.0500	"	1.000		101%	74.4-121		
1,2,4-Trimethylbenzene	0.994			0.0500	"	1.000		99%	71.9-126		
1,3-Dichlorobenzene	0.995			0.0500	"	1.000		99%	67.9-132		
Benzyl chloride	0.999	J		0.0500	"	1.000		100%	60.7-134		
1,4-Dichlorobenzene	1.00			0.0500	"	1.000		100%	65.4-136		
1,2-Dichlorobenzene	0.994			0.0500	"	1.000		99%	69.3-129		

	Result	Units	Spike Level	%REC	%REC Limits
Surrogate: Dichlorodifluoromethane	*0.977*	"	*1.000*	*98%*	*77.8-116*
Surrogate: Dichlorotetrafluoroethane	*0.983*	"	*1.000*	*98%*	*89-108*
Surrogate: Trichlorofluoromethane	*0.984*	"	*1.000*	*98%*	*78.6-114*
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (Freon	*0.990*	"	*1.000*	*99%*	*75.3-119*
Surrogate: 1,1,1-Trichloroethane	*0.993*	"	*1.000*	*99%*	*92.5-105*
Surrogate: Carbon tetrachloride	*0.992*	"	*1.000*	*99%*	*76.3-118*

LCS Dup (B311090-BSD1) — **Prepared: Oct-18-13 Analyzed: Oct-22-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propene	0.855			0.0500	ppbv	1.000		85%	76-112	14	19.6

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

LCS Dup (B311090-BSD1) **Prepared: Oct-18-13 Analyzed: Oct-22-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Chloromethane	0.814			0.100	ppbv	1.000		81%	77.6-116	15	26.9
Vinyl chloride	0.858			0.0500	"	1.000		86%	77.4-117	13	25.1
1,3-butadiene	0.867			0.0500	"	1.000		87%	77.7-115	13	33.2
Bromomethane	0.859			0.0500	"	1.000		86%	75.2-117	13	26.6
Chloroethane	0.867			0.0500	"	1.000		87%	79.8-114	12	29.5
Acrolein	0.857			0.0500	"	1.000		86%	67.9-130	13	29.8
Acetonitrile	U			0.0500	"				71.1-136		36.1
Isopropyl alcohol	0.874			0.0500	"	1.000		87%	81-106	12	25
Propanal	U			0.0500	"				26.2-161		20.1
Acetone	0.829	J		0.100	"	1.000		83%	60-137	13	28.7
1,1-Dichloroethene	0.876			0.0500	"	1.000		88%	77.3-118	12	15.9
Methylene chloride	0.881			0.0500	"	1.000		88%	78.7-117	11	20.7
Carbon disulfide	0.798			0.100	"	1.000		80%	53-140	11	200
Methyl tert-butyl ether	0.917			0.0500	"	1.000		92%	79.1-118	7	31.9
1,1-Dichloroethane	0.889			0.0500	"	1.000		89%	79.8-117	11	13.1
Vinyl acetate	0.937	J		0.0500	"	1.000		94%	85-106	9	200
Hexane	0.904			0.0500	"	1.000		90%	70.1-121	10	43.5
2-Butanone	0.969			0.200	"	1.000		97%	82-108	9	25
cis-1,2-Dichloroethene	0.899			0.0500	"	1.000		90%	78.1-115	10	29.6
trans-1,2-Dichloroethene	0.879			0.0500	"	1.000		88%	0-200	11	25
Chloroform	0.891			0.0500	"	1.000		89%	79.6-115	11	25.2
1,2-Dichloroethane	0.896			0.0500	"	1.000		90%	79.8-115	10	24.6
Cyclohexane	0.904			0.0500	"	1.000		90%	72.5-119	9	34.5
Benzene	0.876			0.0500	"	1.000		88%	75.7-118	10	27.4
1,2-Dichloropropane	0.888			0.0500	"	1.000		89%	76.8-118	11	25.3
Trichloroethene	0.907			0.0500	"	1.000		91%	70.1-119	10	34.1
Bromodichloromethane	0.888			0.0500	"	1.000		89%	75.8-117	12	26.5
1,4-Dioxane	0.919			0.0500	"	1.000		92%	54.7-150	9	58.6
cis-1,3-Dichloropropene	0.881			0.0500	"	1.000		88%	75.5-115	12	31.1
4-Methyl-2-pentanone	0.924			0.0500	"	1.000		92%	62.9-133	9	42
trans-1,3-Dichloropropene	0.890			0.0500	"	1.000		89%	75.8-117	12	31.7
1,1,2-Trichloroethane	0.800			0.0500	"	1.000		80%	92.3-106	12	11.5
Toluene	0.882			0.0500	"	1.000		88%	73.2-120	11	30.6

Environmental Protection Agency Region 5
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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

LCS Dup (B311090-BSD1) Prepared: Oct-18-13 Analyzed: Oct-22-13

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
2-Hexanone	0.958			0.200	ppbv	1.000		96%	76-110	8	46.8
1,2-Dibromoethane (EDB)	0.894			0.0500	"	1.000		89%	75.5-118	12	31.5
Tetrachloroethene	0.791			0.0500	"	1.000		79%	67.1-125	22	13.8
Chlorobenzene	0.883			0.0500	"	1.000		88%	68.5-121	10	31.9
Ethylbenzene	0.896			0.0500	"	1.000		90%	74.9-118	9	31.6
m+p-Xylene	1.85			0.100	"	2.000		92%	79.8-121	9	28.9
Bromoform	0.742			0.0500	"	1.000		74%	72.4-119	31	34.6
Styrene	0.924	J		0.0500	"	1.000		92%	71.5-122	9	19.7
1,1,2,2-Tetrachloroethane	0.877			0.0500	"	1.000		88%	92-106	12	11.5
o-Xylene	0.932			0.0500	"	1.000		93%	77.6-124	9	28.7
1,3,5-Trimethylbenzene	0.925			0.0500	"	1.000		92%	74.4-121	9	29.8
1,2,4-Trimethylbenzene	0.913			0.0500	"	1.000		91%	71.9-126	8	32.1
1,3-Dichlorobenzene	0.903			0.0500	"	1.000		90%	67.9-132	10	37.9
Benzyl chloride	0.899	J		0.0500	"	1.000		90%	60.7-134	11	48.3
1,4-Dichlorobenzene	0.898			0.0500	"	1.000		90%	65.4-136	11	39.6
1,2-Dichlorobenzene	0.890			0.0500	"	1.000		89%	69.3-129	11	34

	Result	Units	Spike Level	%REC	%REC Limits
Surrogate: Dichlorodifluoromethane	*0.852*	"	*1.000*	*85%*	*77.8-116*
Surrogate: Dichlorotetrafluoroethane	*0.853*	"	*1.000*	*85%*	*89-108*
Surrogate: Trichlorofluoromethane	*0.873*	"	*1.000*	*87%*	*78.6-114*
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (Freon	*0.885*	"	*1.000*	*88%*	*75.3-119*
Surrogate: 1,1,1-Trichloroethane	*0.892*	"	*1.000*	*89%*	*92.5-105*
Surrogate: Carbon tetrachloride	*0.864*	"	*1.000*	*86%*	*76.3-118*

Duplicate (B311090-DUP1) Source: 1309022-01 Prepared: Oct-18-13 Analyzed: Oct-21-13

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propene	0.376			0.0500	ppbv		0.371			1	200

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

Duplicate (B311090-DUP1) **Source: 1309022-01** **Prepared: Oct-18-13 Analyzed: Oct-21-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propene + propane	0.376			0.0500	ppbv		0.247			41	52.9
Chloromethane	0.625			0.100	"		0.420			39	200
Vinyl chloride	U			0.0500	"		U				200
1,3-butadiene	0.0164			0.0500	"		0.0198			19	200
1,3-butadiene + n-butane	0.0164			0.0500	"		0.0132			21	200
Bromomethane	7.73E-3			0.0500	"		5.06E-3			42	200
Chloroethane	U			0.0500	"		U				200
Ethanol	1.31			0.0500	"		0.884			39	43.6
Acrolein	0.0926			0.0500	"		0.0629			38	43.6
Acetonitrile	U			0.0500	"		U				44
Isopropyl alcohol	0.516			0.0500	"		0.405			24	52.1
Propanal	U			0.0500	"		U				47.2
Acetone	2.93	J		0.100	"		1.92			42	46.6
1,1-Dichloroethene	U			0.0500	"		U				200
Methylene chloride	0.0952			0.0500	"		0.0598			46	11.2
Carbon disulfide	0.0853	K		0.100	"		0.0757			12	200
Methyl tert-butyl ether	U			0.0500	"		U				200
1,1-Dichloroethane	U			0.0500	"		U				200
Vinyl acetate	0.0151	J		0.0500	"		9.79E-3			43	200
Hexane	0.104			0.0500	"		0.0632			49	28.7
2-Butanone	0.234			0.200	"		0.179			27	12.8
cis-1,2-Dichloroethene	U			0.0500	"		U				200
trans-1,2-Dichloroethene	U			0.0500	"		U				200
Chloroform	0.0212			0.0500	"		0.0140			41	200
1,2-Dichloroethane	0.0128			0.0500	"		9.34E-3			31	200
Cyclohexane	0.0108			0.0500	"		7.12E-3			41	77.2
Benzene	0.119			0.0500	"		0.0816			37	33.3
1,2-Dichloropropane	U			0.0500	"		U				200
Trichloroethene	U			0.0500	"		U				200
Bromodichloromethane	U			0.0500	"		U				200
1,4-Dioxane	U			0.0500	"		U				200
cis-1,3-Dichloropropene	U			0.0500	"		U				200
4-Methyl-2-pentanone	U			0.0500	"		U				1.84

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Batch B311090 - ColdTrap Dehydration

Duplicate (B311090-DUP1) **Source: 1309022-01** **Prepared: Oct-18-13 Analyzed: Oct-21-13**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	U			0.0500	ppbv		U				200
1,1,2-Trichloroethane	U			0.0500	"		U				200
Toluene	0.118			0.0500	"		0.0799			39	20.2
2-Hexanone	U			0.200	"		U				15.2
1,2-Dibromoethane (EDB)	U			0.0500	"		U				200
Tetrachloroethene	0.0147			0.0500	"		0.0141			4	22.3
Chlorobenzene	U			0.0500	"		U				200
Ethylbenzene	0.0251			0.0500	"		0.0169			39	31.2
m+p-Xylene	0.0348			0.100	"		0.0235			39	200
Bromoform	U			0.0500	"		U				200
Styrene	U	J		0.0500	"		U				200
1,1,2,2-Tetrachloroethane	U			0.0500	"		U				200
o-Xylene	0.0136			0.0500	"		9.40E-3			36	200
1,3,5-Trimethylbenzene	5.53E-3			0.0500	"		U				200
1,2,4-Trimethylbenzene	8.86E-3			0.0500	"		6.36E-3			33	200
1,3-Dichlorobenzene	U			0.0500	"		U				200
Benzyl chloride	U	J		0.0500	"		U				200
1,4-Dichlorobenzene	U			0.0500	"		U				200
1,2-Dichlorobenzene	U			0.0500	"		U				200

	Result	Units	Spike Level	%REC	%REC Limits
Surrogate: Dichlorodifluoromethane	*0.666*	"	*0.5250*	*127%*	
Surrogate: Dichlorotetrafluoroethane	*0.0209*	"	*2.000E-2*	*104%*	
Surrogate: Trichlorofluoromethane	*0.314*	"	*0.2390*	*131%*	
Surrogate: 1,1,2-trichloro-1,2,2-trifluoroethane (Freon	*0.0942*	"	*7.300E-2*	*129%*	
Surrogate: 1,1,1-Trichloroethane	*5.14E-3*	"	*5.000E-3*	*103%*	
Surrogate: Carbon tetrachloride	*0.105*	"	*8.600E-2*	*122%*	

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Air Division, US EPA Region 5	Project: GMAP-Ohio Landfills	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60605	Project Manager: Chad McEvoy	Jan-17-14 09:10

Air Toxics by GC/MS, EPA TO-15 (modified) - Quality Control
US EPA Region 5 Chicago Regional Laboratory

Environmental Protection Agency Region 5
Chicago Regional Laboratory
536 South Clark Street, Chicago, IL 60605
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Air Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60605	Project: GMAP-Ohio Landfills Project Number: [none] Project Manager: Chad McEvoy	Reported: Jan-17-14 09:10

Notes and Definitions

K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			This is a modified report
			VERSION 6.12:2005
1309022-01	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-01	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-01	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-01	Air Toxics Reimer 5		Missing Butanal
1309022-01	Air Toxics Reimer 5		Missing Cyclopentane
1309022-01	Air Toxics Reimer 5		Missing Hexanal
1309022-01	Air Toxics Reimer 5		Missing Methacrolein
1309022-01	Air Toxics Reimer 5		Missing Pentane
1309022-01	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-01	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-01	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-01	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-01	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-01	Air Toxics Reimer 5	Isopropyl alcohol	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-01	Air Toxics Reimer 5	m+p-Xylene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-01	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-01	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-02	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-02	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-02	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-02	Air Toxics Reimer 5		Missing Butanal
1309022-02	Air Toxics Reimer 5		Missing Cyclopentane
1309022-02	Air Toxics Reimer 5		Missing Hexanal
1309022-02	Air Toxics Reimer 5		Missing Methacrolein
1309022-02	Air Toxics Reimer 5		Missing Pentane
1309022-02	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-02	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-02	Air Toxics Reimer 5	1,2-Dibromoethane (EDB)	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-02	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-02	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-02	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-02	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-02	Air Toxics Reimer 5	Hexane	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-02	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-02	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-02	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-03	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
1309022-03	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-03	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-03	Air Toxics Reimer 5		Missing Butanal
1309022-03	Air Toxics Reimer 5		Missing Cyclopentane
1309022-03	Air Toxics Reimer 5		Missing Hexanal
1309022-03	Air Toxics Reimer 5		Missing Methacrolein
1309022-03	Air Toxics Reimer 5		Missing Pentane
1309022-03	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-03	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-03	Air Toxics Reimer 5	1,2-Dibromoethane (EDB)	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-03	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	cis-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-03	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-03	Air Toxics Reimer 5	Isopropyl alcohol	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-03	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-04	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-04	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-04	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-04	Air Toxics Reimer 5		Missing Butanal
1309022-04	Air Toxics Reimer 5		Missing Cyclopentane
1309022-04	Air Toxics Reimer 5		Missing Hexanal
1309022-04	Air Toxics Reimer 5		Missing Methacrolein
1309022-04	Air Toxics Reimer 5		Missing Pentane
1309022-04	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-04	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-04	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-04	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-04	Air Toxics Reimer 5	cis-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-04	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-04	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-04	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-05	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-05	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
1309022-05	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-05	Air Toxics Reimer 5		Missing Butanal
1309022-05	Air Toxics Reimer 5		Missing Cyclopentane
1309022-05	Air Toxics Reimer 5		Missing Hexanal
1309022-05	Air Toxics Reimer 5		Missing Methacrolein
1309022-05	Air Toxics Reimer 5		Missing Pentane
1309022-05	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-05	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-05	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-05	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-05	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-05	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-05	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-05	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-05	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-05	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-06	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-06	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-06	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-06	Air Toxics Reimer 5		Missing Butanal
1309022-06	Air Toxics Reimer 5		Missing Cyclopentane
1309022-06	Air Toxics Reimer 5		Missing Hexanal
1309022-06	Air Toxics Reimer 5		Missing Methacrolein
1309022-06	Air Toxics Reimer 5		Missing Pentane
1309022-06	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-06	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-06	Air Toxics Reimer 5	1,2-Dibromoethane (EDB)	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-06	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-06	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-06	Air Toxics Reimer 5	cis-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-06	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-06	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-06	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-07	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-07	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-07	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-07	Air Toxics Reimer 5		Missing Butanal
1309022-07	Air Toxics Reimer 5		Missing Cyclopentane
1309022-07	Air Toxics Reimer 5		Missing Hexanal
1309022-07	Air Toxics Reimer 5		Missing Methacrolein

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
1309022-07	Air Toxics Reimer 5		Missing Pentane
1309022-07	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-07	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-07	Air Toxics Reimer 5	Benzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-07	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-07	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-07	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-07	Air Toxics Reimer 5	Hexane	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-07	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-07	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-08	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-08	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-08	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-08	Air Toxics Reimer 5		Missing Butanal
1309022-08	Air Toxics Reimer 5		Missing Cyclopentane
1309022-08	Air Toxics Reimer 5		Missing Hexanal
1309022-08	Air Toxics Reimer 5		Missing Methacrolein
1309022-08	Air Toxics Reimer 5		Missing Pentane
1309022-08	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-08	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-08	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-08	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-08	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-08	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-08	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-08	Air Toxics Reimer 5	m+p-Xylene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-08	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-08	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-08	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-09	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-09	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-09	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-09	Air Toxics Reimer 5		Missing Butanal
1309022-09	Air Toxics Reimer 5		Missing Cyclopentane
1309022-09	Air Toxics Reimer 5		Missing Hexanal
1309022-09	Air Toxics Reimer 5		Missing Methacrolein
1309022-09	Air Toxics Reimer 5		Missing Pentane
1309022-09	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-09	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
1309022-09	Air Toxics Reimer 5	1,4-Dioxane	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-09	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-09	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-09	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-09	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-09	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-09	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-09	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-10	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-10	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-10	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-10	Air Toxics Reimer 5		Missing Butanal
1309022-10	Air Toxics Reimer 5		Missing Cyclopentane
1309022-10	Air Toxics Reimer 5		Missing Hexanal
1309022-10	Air Toxics Reimer 5		Missing Methacrolein
1309022-10	Air Toxics Reimer 5		Missing Pentane
1309022-10	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-10	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-10	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-10	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
1309022-10	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-10	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-10	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-10	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-10	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-10	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
1309022-11	Air Toxics Reimer 5		Missing 1,2,3-Trimethylbenzene
1309022-11	Air Toxics Reimer 5		Missing 1,2,4-Trichlorobenzene
1309022-11	Air Toxics Reimer 5		Missing 1,3-butadiene
1309022-11	Air Toxics Reimer 5		Missing Butanal
1309022-11	Air Toxics Reimer 5		Missing Cyclopentane
1309022-11	Air Toxics Reimer 5		Missing Hexanal
1309022-11	Air Toxics Reimer 5		Missing Methacrolein
1309022-11	Air Toxics Reimer 5		Missing Pentane
1309022-11	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
1309022-11	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
1309022-11	Air Toxics Reimer 5	Acetone	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-11	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
1309022-11	Air Toxics Reimer 5	Chlorobenzene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-11	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
1309022-11	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
1309022-11	Air Toxics Reimer 5	Tetrachloroethene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-11	Air Toxics Reimer 5	trans-1,3-Dichloropropene	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
1309022-11	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits
B311090-BLK1	Air Toxics Reimer 5	1,1,1-Trichloroethane	Spike recovery below MDL
B311090-BLK1	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Spike recovery below MDL
B311090-BLK1	Air Toxics Reimer 5	Acetone	Blank >1 x MDL
B311090-BLK1	Air Toxics Reimer 5	Carbon tetrachloride	Spike recovery below MDL
B311090-BLK1	Air Toxics Reimer 5	Dichlorodifluoromethane	Spike recovery below MDL
B311090-BLK1	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Spike recovery below MDL
B311090-BLK1	Air Toxics Reimer 5	Isopropyl alcohol	Blank >1 x MDL
B311090-BLK1	Air Toxics Reimer 5	Trichlorofluoromethane	Spike recovery below MDL
B311090-BS1	Air Toxics Reimer 5	1,1,2-Trichloroethane	Exceeds lower control limit
B311090-BS1	Air Toxics Reimer 5	Acetonitrile	No spike level
B311090-BS1	Air Toxics Reimer 5	Propanal	No spike level
B311090-BSD1	Air Toxics Reimer 5	1,1,1-Trichloroethane	Exceeds lower control limit
B311090-BSD1	Air Toxics Reimer 5	1,1,2,2-Tetrachloroethane	Exceeds lower control limit
B311090-BSD1	Air Toxics Reimer 5	1,1,2,2-Tetrachloroethane	Exceeds RPD control limit
B311090-BSD1	Air Toxics Reimer 5	1,1,2-Trichloroethane	Exceeds lower control limit
B311090-BSD1	Air Toxics Reimer 5	1,1,2-Trichloroethane	Exceeds RPD control limit
B311090-BSD1	Air Toxics Reimer 5	Acetonitrile	No spike level
B311090-BSD1	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Exceeds lower control limit
B311090-BSD1	Air Toxics Reimer 5	Propanal	No spike level
B311090-BSD1	Air Toxics Reimer 5	Tetrachloroethene	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	1,1,1-Trichloroethane	Missing control limits
B311090-DUP1	Air Toxics Reimer 5	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Missing control limits
B311090-DUP1	Air Toxics Reimer 5	2-Butanone	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Benzene	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Carbon disulfide	K: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
B311090-DUP1	Air Toxics Reimer 5	Carbon tetrachloride	Missing control limits
B311090-DUP1	Air Toxics Reimer 5	Dichlorodifluoromethane	Missing control limits
B311090-DUP1	Air Toxics Reimer 5	Dichlorotetrafluoroethane	Missing control limits
B311090-DUP1	Air Toxics Reimer 5	Ethylbenzene	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Hexane	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Methylene chloride	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Toluene	Exceeds RPD control limit
B311090-DUP1	Air Toxics Reimer 5	Trichlorofluoromethane	Missing control limits

Sample, Log and Extraction Comments

1309022-09
Air Toxics Reimer 5

Short Audible Fill Time-Can May Have Leaked Prior To Use